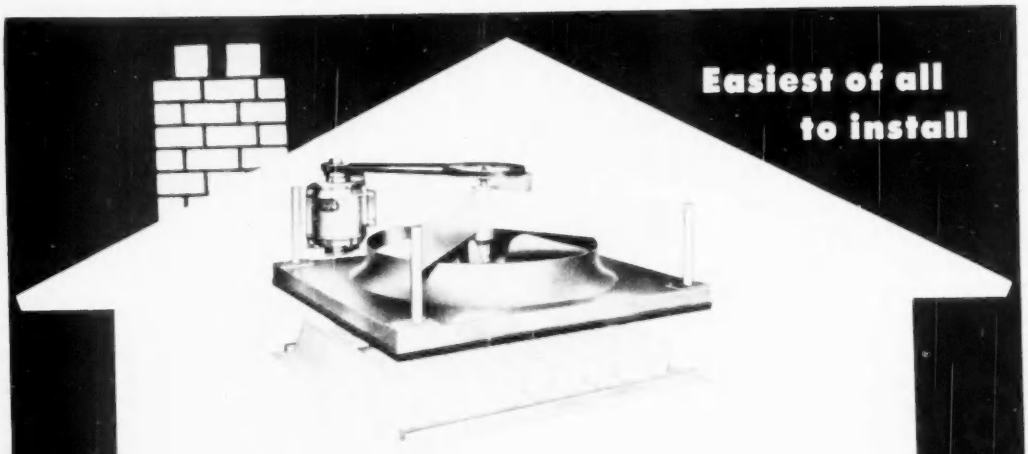
ELECTRICAL SOUTH

OCTOBER, 1950



Easiest of all to install

Biggest value in attic fans!

- Automatic ceiling shutter
- Certified P.E.M.A. air ratings
- Hunter highest quality construction
- Quiet and powerful
- Easiest of all to install
- Fits low ceiling attics
- No suction box needed
- 2 sizes: 4750 CFM and 6800 CFM

•Other models with 7700 CFM and 9600 CFM

PRICED TO RETAIL AS LOW AS $139.50 (Complete with automatic ceiling shutter)

HUNTER *Package* ATTIC FANS

Write or wire for catalog and name of nearest Hunter distributor.

Hunter Fan and Ventilating Co., 392 S. Front St., Memphis 2, Tennessee

Designed for Contractors by Wakefield

The Hook-On Stem

. . . the quickest device ever designed for hanging fixtures

Screw in the stem and canopy assembly; then just slip the flared end of the stem into the bayonet slot of the pre-installed strap on the ceiling. Tighten the set-screw. In seconds, the fixture is hung. Then, with two self-tapping screws attach the end to the continuous run. Designed for quick one-man installation, Wakefield units save time, save labor and save your customer money on every job. And each step is just as easy—as we'll show you in future ads.

Wide-awake contractors don't say, "Hang the expense!" They say, "Hang Wakefield!"

The F. W. Wakefield Brass Company • Vermilion, Ohio

NEW!

COMPACT!
ECONOMICAL!

MURRAY LOAD CENTERS

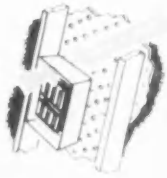
with Fully Magnetic Circuit Breakers

that are Interchangeable with Other New Single Pole Individually Housed Breakers

Now you can get all the advantages of fully magnetic circuit breaker protection in load centers that are trim and compact — with breakers that are interchangeable with other new single pole individually housed breakers! Now you can get utmost flexibility with minimum stock — make up your own combination right on the job! Now you can forget about "derating" . . . now you can banish the nuisance of false tripping . . . now you can make satisfactory installations of circuit breakers in warm or poorly ventilated locations—where space and cost are important!

These compact new Murray load centers are available in 2, 6 or 8 circuit models. They come equipped with the sensational new small size Murray fully magnetic circuit breakers — now 30 per cent smaller than previous fully magnetic circuit breakers — available in ratings of 10 through 50 amp. They save you time . . . save you trouble . . . save you money — yet assure the user positive protection combined with utmost satisfaction!

—only 3 inches deep—ideal for flush installation in "dry wall" construction. Plus a simple ⅜" plaster line adjustment



See for yourself why Murray fully magnetic breakers run cooler, last longer, never need derating . . . always carry rated load, plus harmless overloads—even in warm locations and poorly ventilated panels. Easy, simple diagrams tell the story. It will pay you. Write for your copy today.

Murray MANUFACTURING CORPORATION

1250 ATLANTIC AVENUE • BROOKLYN 16, N. Y.

Electrical Safety Devices for Home and Industry

ELECTRICAL SOUTH is published monthly by W. R. C. Smith Publishing Co., Atlanta, Ga., U. S. A. Subscription rates, United States and Possessions, $3.00 one year; Canada and Foreign Countries, $4.00 per year. Entered as second class matter at the Post Office, Atlanta, Ga., under Act of March 3, 1879.

Volume 30 Number 10

HUBBARD

LOXFAST GUY PROTECTOR

Hubbard Loxfast Protectors provide a large, highly visible covering for guy wires. Visibility at eye level is 30% greater than for the half-round style, plus a full-round surface which prevents serious injury in case of accidental contact.

Top clamp fits strands up to 5/8" diameter, no bolts to tighten.

Turned edge, full length, gives rigidity.

Anchor rod eyes completely encased.

Clamp takes rods 1¼" diameter and under, one bolt action.

Beading for extra strength.

Permanent—Hubbard Double-Dipped Hot Galvanizing.

Stock No.	Type	Overall Length Feet	Diameter Inches Inside Top	Diameter Inches Inside Bottom	Steel Gauge	Approx. Ship. Wt. Lbs. 100 Pcs.
7657	Loxfast-Light	7	2	3¾	18	1100
7658	Loxfast-Light	8	1¾	3¾	18	1200
27657	Loxfast-Heavy	7	2	3¾	16	1400
27658	Loxfast-Heavy	8	1¾	3¾	16	1550

HUBBARD AND COMPANY

ESTABLISHED 1843

PITTSBURGH • CHICAGO • OAKLAND, CALIFORNIA

"Hang the load on Hubbard Hardware!"

ELECTRICAL SOUTH

SERVING THE 16 SOUTHERN AND SOUTHWESTERN STATES

October, 1950 — Vol. 30 — No. 10

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In This Issue

Wired Any Homes Lately?
by Sam Carson — 22

Let's Talk Business
by David Craton — 24

Jacksonville Expansion
by C. E. Wright — 25

How to Wire the Drive-In for Heat — *by L. H. Houck* — 26

Problems in Store Lighting
by H. M. White — 28

The Right Supporting Records Ease Tax Problems — *by Arthur Roberts* — 30

Relay Testing and Maintenance
by C. C. Jones — 31

Editorial — 17

Our Readers Say — 19

Modern Methods — 34

Industry News — 38

Names in the News — 43

New Products — 46

APPLIANCE SECTION

(Page 61)

How to Stage a TV Carnival — 76

Experience is the Best Teacher — 78

How to Promote Commercial Cooking — 81

How to Conduct Washer Parties — 84

"Dig for Gold" Promotion — 85

Getting Along Without Salesmen — 86

Keep Your Business Machine in Good Order — 88

Eliminate Needless TV Service Calls — 89

News Roundup — 90

Silent Salesmen — 94

Names in the News — 43

Product Parade — 96

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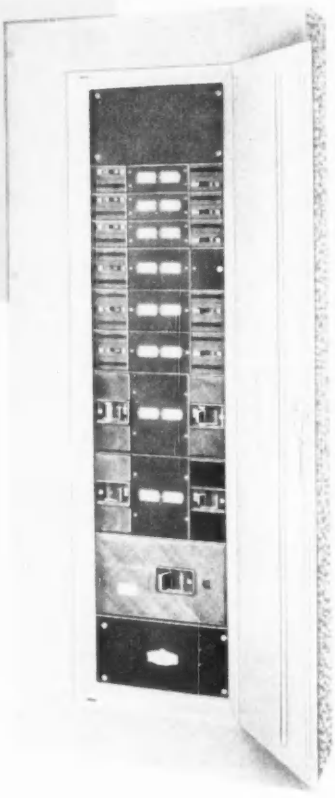
For Extra Safety and Convenience

use

STANDARDIZED FEEDER DISTRIBUTION PANELBOARDS

with automatic circuit-breaker protection



ADD TO (FA) FEEDER PANELBOARDS the extra safety (no overloading) and convenience (nothing to replace) of automatic circuit breaker protection and you have a panelboard that's as popular as it is dependable.

For economy and ease of installation, finished panelboards are built to your requirements using standardized boxes designed to meet any job need. Boxes are shipped from stock . . . with removable ends to permit drilling conduit openings on the job. Panels are readily installed after boxes are in position.

The circuit breakers, too, are standardized as to dimensions and fastenings, permitting ready interchangeability or replacement. 50 amp. frame size has thermal trip only; 100 amp. and larger have combination thermal-magnetic trip.

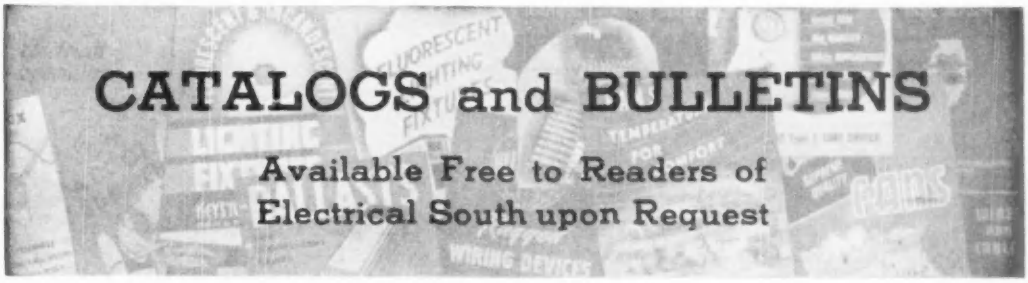
Of compact design, minimum space is required for these (FA) Circuit Breaker FEEDER PANELBOARDS without sacrificing capacity or installation features. For complete details, talk it over with your (FA) Representative (he's listed in Sweet's).

Capacities: 15 to 600 amps. in four frame sizes (50-100, 225 and 600 amp.); 250 and 600 volts AC or DC. Non-interchangeable trip elements are standard on the two smaller frame sizes; interchangeable trip on all others. This feature is also available in 100 amp. frame on special order at slight additional charge.

Frank Adam Electric Co.

ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER



CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 9, 67 and 69)

1008—Electrical Equipment. The latest edition of the Ericsson line just been issued by Federal Electric Products Co., 50 Paris St., Newark 5, N. J. This catalog illustrates, describes and contains complete details of Ericsson manual starters, contactors, switches, safety equipment, small frames, combination switchboards and headsets.

1024—Cords and Cables. The Simplex Wire & Cable Co. has just issued an attractive 60-page catalog giving descriptions of the Simplex-Duex portable cords and cables. Complete information on options is also included, as well as a pictorial section on applications. It may be obtained from 79 Sidney St., Cambridge 39, Mass.

1028—Porcelain Insulators. A large-leaf catalog of porcelain insulators and pole line hardware is available from Illinois Electric Porcelain Co., Mecosta, Illinois. In addition to the pages of product specifications, the catalog contains a special section of useful tables.

1030—Condensed Lighting Catalog. The Spun Aluminum Bulletin issued by Pittsburgh Reflector Co., 430 Oliver Bldg., Pittsburgh 22, Pa., describes in detail the most popular items in the Pittsburgh line of shapes, cut and incandescent lighting equipment. Each item is fully illustrated, assigned and given specifications for installation drawings.

1032—Receptacles, Plugs and Connectors. Russell & Stoll Co., Inc., 125 Barclay St., N. Y., has released a bulletin, No. FL 4-49, describing the new Everlock receptacles, plugs and cord connections for 50 amperes, 440 volts. [illegible] are for heavy-duty industrial service.

1034—Building Wire. A 16-page illustrated folder entitled "Hazard Building Wire" is now available from the Hazard Insulated Wire Works, Division of The Okonite Co., Wilkes-Barre, Pa. [illegible] wire, [illegible] wire, [illegible] wire,

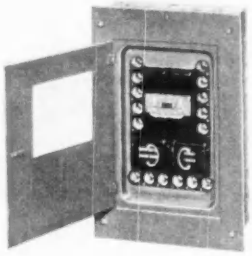
and here are the reasons why!

TIME AFTER TIME . . . a dozen times during the last 18 months . . . there's been news of remarkable new Federal Noark developments in every line of low voltage distribution equipment. And to the electrical trade this has all been *headline news*, telling of opportunities to supply your customers with superior devices and to make unheard of savings of labor and money at the same time.

Today, whatever your requirements may be, you'll find in the Federal Noark lines exactly the right equipment for every job. What's more, all of it will have special features that make it the best value obtainable for ease of wiring and installation and for service efficiency and long life.

It will pay you to look at once into the complete lines of Federal Noark equipment at your nearest Federal Distributor's. You'll plainly see how Federal's development of one new product after another makes it possible for you to save real money and increase your profits.

FOR EXAMPLE, LOOK AT THESE SERVICE ENTRANCE EQUIPMENT FEATURES



Cat. No. 126161

HANDLES MODERN LOADS

Federal's 100 Amp. Main and Range Pull Switch line is a completely new design to handle the increased loads demanded in today's residences.

Main: 100 Amp. fusible pullout, 125/250 V., A.C., 3 wire SN.

Branches: a. Two 60 amp. fusible (or one 60 amp. and one 30 amp.) pullouts, 3 Wire SN for range and water heater.

b. 10 or 16 plug fuses, 2 Wire SN branches for lighting circuits.

c. Also available with 30 amp. "off peak" water heater branch circuit.

Split solid neutral construction places each neutral terminal next to each lighting circuit. Entire interior can be removed for ease of wiring.

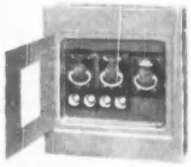
Cat. No. 110

A REAL SPACE SAVER

New Federal Noark 100 Ampere Pull Switch is unusually compact and attractive. Surface and flush enclosures are 12⅝" high x 10⅝" wide . . . raintight enclosure, 13¾" high x 10⅝" wide . . . and all enclosures are only 4⅝" deep. . . No hinged joints; completely dead front, even with puller head out. "On" and "Off" positions clearly indicated.

"OFF PEAK" CIRCUIT ADDED

Utilities' expansion of "off peak" hot water service has created the need for additional isolated circuit capacity to handle this load. To meet this need, Federal Noark has added a 30-ampere 3 pole SN Pull Switch to its popular 264 and 264C Main and Range Switches . . . designated by the suffix "W".



Cat. No. 264W

30 NEW QUICKLAG PANELETTES

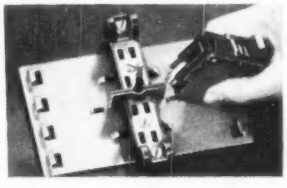
New and larger capacity enclosures increased the value of the individual pole Quicklag Circuit Breakers for service entrance use.

Now you can get Federal Noark QL Panelettes with:

- ★ Up to 24-circuit capacity.
- ★ 100 Amp. Main Breakers.
- ★ Special polarity sequence bussing allowing maximum number of double pole breakers.
- ★ Bussing that allows full advantage of multi-main provisions of N.E.C. to eliminate the need for large main disconnects.
- ★ Panelboard-type doors and locks.
- ★ Raintight enclosures.

Only Federal Noark supplies this complete range of QL Panelettes.

Cat. No. 167FD2508



SIMPLEST, SAFEST, CIRCUIT BREAKER PROTECTION

Federal Noark's amazing new STAB-LOK Circuit Breaker system will replace practically all popular fusible devices—and at comparable cost. The 1, 2, 4, 8, and 16-circuit STAB-LOK Circuit Breakers are suitable for service entrance use. Additional circuits are safely, easily added merely by plugging-in breakers and connecting load wires.

SEND FOR COPY OF OUR NEW PRODUCTS BULLETIN

FEDERAL ELECTRIC PRODUCTS COMPANY, 50 PARIS ST., NEWARK 5, NEW JERSEY

FEDERAL NOARK

Service Entrance Equipment

Complete line of Federal Electric Products includes Motor Controls, Safety Switches, Service Equipment, Circuit Breakers, Panelboards, Switchboards, Control Centers, Bus Duct ★ Sales offices in principal cities

"Marshalling the forces of advertising to help solve national problems and to make democracy work better . . ."

Do you know that the forces of advertising are engaged today in one of the world's greatest jobs of mass education . . . *in the public interest?*

Do you know that these forces for good have been released through the vision and wonderful cooperation of American business — advertisers, advertising agencies, media owners and others?

Hundreds of advertising agencies have volunteered their planning and creative time and facilities. Artists, cartoonists, photo-engravers, printers, typographers and others have contributed their services.

Media owners have donated millions of dollars in space and time. National and local advertisers have sponsored and paid for many millions of public service advertising messages.

Across the land the American people are being alerted as never before to the dangers which threaten from within and from without . . . the dangers of ignorance about our American economic system, intolerance, juvenile delinquency, school and teacher shortages, etc.

And at the helm of this great public service effort is your organization . . . The Advertising Council.

Advertisers and Media Owners . . . Your Help is Needed!

Right now The Advertising Council has 44 programs in operation. The success of these programs depends on the public-spirited and generous cooperation of advertisers and media owners. Your help, in the form of space & time donations, will mean a lot to the Ad Council. And remember . . . *What helps America helps you!*

Yours for the Asking

Write for a copy of Booklet No. 51. It will give you more information about The Advertising Council . . . how it started . . . what it is . . . what it does . . . Or, ask for material for speeches or programs. Address: The Advertising Council, 25 West 45th Street, New York 36, N. Y.

Published in the public interest by

ELECTRICAL SOUTH

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1066—Electrical Materials. [illegible] Nos. 2 Wire Strength Data; Insulated Lightning Arresters Data; No. 3 Wire Strength Data; and No. 4 Pole Risk Data on Secondary Distribution. Issued [illegible] Holland and Co., Pittsburgh, Pa.

1068—Wire and Cable. Rome Cable Corporation, Rome, N. Y., has just published a new "Rome and Weatherproof Wire and Cable" catalog, No. [illegible]. By wood and portable for users of Rome wire and cable including specifications and [illegible] and sections to Straight to the reader.

1070—Fluorescent Lamp Ballasts. General Electric's Specialty Transformer and Ballast Division, Schenectady 5, N. Y., has announced an available a new 20-page illustrated bulletin. The bulletin gives complete information on the application, operation and rating of ballasts for fluorescent lamps. Write General Electric for Bulletin GET-927-B.

1074—Carbon Brushes. A new 112-page illustrated catalog devoted exclusively to fractional horsepower motor load on small appliances, refrigerators, portable tools, vacuum cleaners, and fans, is now available from the Southern Carbon Brush Co., Inc., P. O. Box 1730, Birmingham 1, Ala. This is a handy reference book for the electric motor repairshop.

1076—Modular Lighting. A 20-page booklet containing interesting and useful information about the modular system of lighting can be obtained by writing to the Metalux Manufacturing Co., 2525 Clybourn Ave., Chicago 14, Ill.

1078—Electrical Fittings & Devices. This new 12-page catalog covering soldering connectors, duct and conduit fittings, and wiring devices announced by Bryant Electric Co., 79 Trumbull St., East Central Ave., Hillside, N. J., presents complete data on "Splice Caps" and "Terminal Tags" for wire splicing and terminating; box connectors for metallic and nonmetallic sheathed cable; both plain and insulated conduit bushings; conduit and junction box plugs; duct plugs; "Receptacle Blocks" and "Receptacle Plugs"; and "Switch Illustrations" throughout the catalog and [illegible] information can be obtained.

1080—Farm Lighting Equipment. Bulletin No. [illegible] available from Stokes Manufacturing Co., Brockton, Ill., [illegible] new [illegible] Schedule [illegible] Ventilator [illegible].

1082—Lighting Equipment. [illegible] Bulletin No. [illegible] available from the L. W. Wakefield Brass Co., Wyandanch, Long Island, N. Y. The catalog covers full engineering data on Fluorescent Fixtures, Commercial Industrial and Incandescent [illegible] and [illegible] lighting.

1084—Connectors and Couplings. [illegible] Catalog No. [illegible] issued by Wakefield Brass Co., Vermilion, Ohio, describes [illegible] Connectors and Couplings. Also [illegible] Connectors and Couplings [illegible].

1086—Fittings and Fixtures. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., Chicago 14, Ill. [illegible] Fittings and Fixtures [illegible].

1088—Midget Size Busduct. [illegible] Bulletin No. [illegible] available from [illegible] Co., [illegible] Ave., Chicago 14, Ill. [illegible] Busduct [illegible].

1092—Electrical Boxes and Conduit Fittings. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., Chicago 14, Ill. [illegible] Boxes and Conduit Fittings [illegible].

1094—Photoelectric Controls for Street Lighting. [illegible] Bulletin No. [illegible] available from [illegible] Co., [illegible] Ave., Chicago 14, Ill. [illegible] Photoelectric Controls for Street Lighting [illegible].

1098—Fastening Devices. An illustrated bulletin of devices for fastening electrical [illegible] to [illegible] is available from the Shepard Mfg. Co., St. Louis 3, Mo.

1095—Fluorescent Lighting Fixtures. A complete catalog of [illegible] fluorescent [illegible] is available from Complete Lighting Co., [illegible] Ave., Chicago 14, Ill.

1110—Flexible Cords and Portable Cables. Bulletin [illegible] a new illustrated catalog describing [illegible] cords and cables [illegible] Write Wire Division, [illegible] Co., [illegible] Ave., Bridgeport 2, Conn.

1112—Shutters and Dampers. An 8-page catalog [illegible] Ruskin Mfg. Co., [illegible] Ave., Kansas City, Mo. [illegible] Dampers [illegible] Catalog No. [illegible] [illegible].

1114—O. J. Pandelites. A new 4-page folder on [illegible] Switch [illegible] Pandelite has been announced by Federal Electric Products Co., [illegible] Ave., Newark 3, N. J.

1116—Lines and Connectors. Kerite [illegible] Co., [illegible] Ave., Cincinnati 2, Ohio, has made available a [illegible] describing [illegible] No. [illegible] and Lines [illegible].

1118—Fluorescent Fixtures. A 16-page catalog, "Fluorescent Surface and Recessed Fixtures," describes the line recently announced by Stanley Electric Mfg. Co., [illegible] Ave., Pittsburgh 19, Pa. [illegible] general [illegible] for commercial, industrial, institutional and school [illegible] Fixtures are [illegible] and [illegible] are accompanied by dimensional [illegible] and [illegible] [illegible] and diagrams of typical [illegible].

1120—Recessed Lighting. A [illegible] illustrated 24-page catalog on recessed lighting [illegible] is now available from The Kurbis Co., [illegible] Jefferson Ave., Detroit 7, Mich. The covers the recent improvements in this most popular form, wherein through the use of a [illegible] the [illegible] are [illegible] [illegible] and [illegible] are [illegible] by installing.

1122—Portable Cords. New eight-page booklet describing and illustrating complete line of Simplex HREN Portable Cord [illegible] weights and [illegible] Copies may be obtained from Simplex Wire & Cable Co., 79 Sidney Street, Cambridge 39, Mass.

1124—Cross Hinge Candelabra. A [illegible] Catalog No. [illegible] of Cross Hinge Candelabra [illegible] the complete line of H. [illegible] Co., [illegible] Ave., [illegible] N. Y.

1126—Power Line. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., [illegible] N. Y. [illegible] Power Line [illegible].

1128—Display Lighting. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., [illegible] Display Lighting [illegible].

1130—Conduit Fittings. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., [illegible] Conduit Fittings [illegible].

1132—Iron Conduit. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., [illegible] Iron Conduit [illegible].

1134—Portable Cables for Low Voltage. [illegible] Catalog No. [illegible] issued by [illegible] Co., [illegible] Ave., [illegible] Portable Cables for Low Voltage [illegible].

"Just when do I use

It isn't easy to decide what type of insulation to specify for electrical wire and cable. But the job will be a lot easier if you use the experimental and practical knowledge of American Steel & Wire Company engineers. These engineers know that varnished cambric insulation has a combination of properties that are unmatched by any other one insulation.

To start with, varnished cambric is superior to rubber when it comes to heat resistance and load capacity—it can be used at operating temperatures up to 85° C. And, because of its higher dielectric strength, varnished cambric insulation walls can be thinner than rubber. But unlike rubber, varnished cambric requires a waterproof covering if it is to be continuously exposed to moisture.

Paper insulation is more susceptible to ordinary moisture than varnished cambric. And, although varnished cambric is not as flexible as rubber, it is much easier to handle and simpler to install than paper insulated cables.

Varnished cambric has one big advantage over both natural rubber and paper: It is not affected by oil and grease.

Available Types of American Varnished Cambric Cables

CONDUCTORS:
solid
stranded
extra-flexible
annular
segmental

OUTER COVERINGS:
cotton braids
asbestos braids
tape

FINISHES:
black wax
firefite
U.R.C.
slowburning

ARMOR FINISHES:
flat steel tape
interlocking
metal tape
steel wire
basket-weave

LEAD SHEATHINGS:
plain
jute served
duck tapes
reinforced rubber

RUBBER SHEATHINGS:
where lead
cannot be used

Varnished Cambric?"

APPLICATIONS

● Impregnated paper is still the standard insulation for high-voltage operation and general power transmission. And rubber is advisable for most low-voltage installations—or even higher voltages when its moisture resistance and flexibility are particularly valuable.

Varnished cambric follows the middle path, and it is often used in place of rubber or paper because of its properties.

Take a high temperature, low-voltage application. Varnished cambric is often used in place of rubber because of its higher temperature resistance, and resulting greater load capacity.

Varnished cambric is also widely used for medium-voltage (up to 5000 v) transmission lines because it is so easy to install, terminate and join. It is ideal for dry locations, and it can be used without a lead sheath because it is not subject to oil drainage.

Varnished cambric is preferred for general wiring in power stations. Typical examples are: Generator leads, insulated bus bars between oil switches, distribution transformers, etc. Oil and grease resistance of this insulation also make it useful for motor leads and transformer connections.

Perhaps the most common application of varnished cambric insulated cables and wires is for general power distribution within manufacturing plants . . . especially in heavy industries where large blocks of power are transmitted for short distances. Bridges, and other structures which require aerial cables, are often serviced with varnished cambric cables that have a rubber jacket. Rubber jackets are preferable in these locations because lead would probably be ruined by vibration.

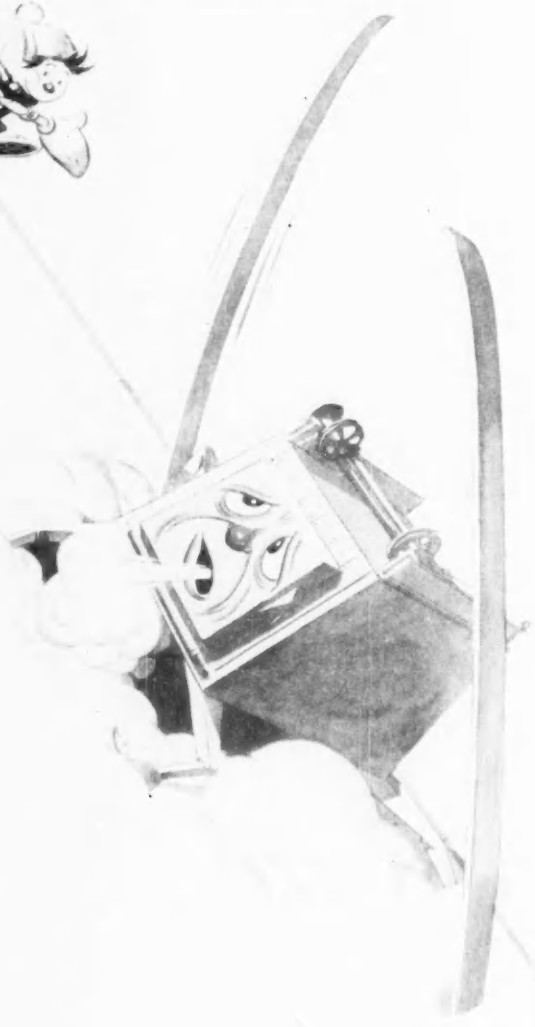
Always remember that our engineers are willing to help you solve any wire or cable problem that you may have. And there is no obligation. Write today for Bulletin No. 6195-A "Varnished Cambric Insulated Wires and Cables."

AMERICAN STEEL & WIRE COMPANY, GENERAL OFFICES: CLEVELAND, OHIO
COLUMBIA STEEL COMPANY, SAN FRANCISCO, PACIFIC COAST DISTRIBUTORS
TENNESSEE COAL, IRON & RAILROAD COMPANY, BIRMINGHAM, SOUTHERN DISTRIBUTORS
UNITED STATES STEEL EXPORT COMPANY, NEW YORK

American Varnished Cambric Cables

UNITED STATES STEEL

YOU CAN BE **SURE**.. IF IT'S



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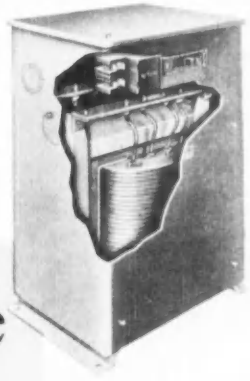

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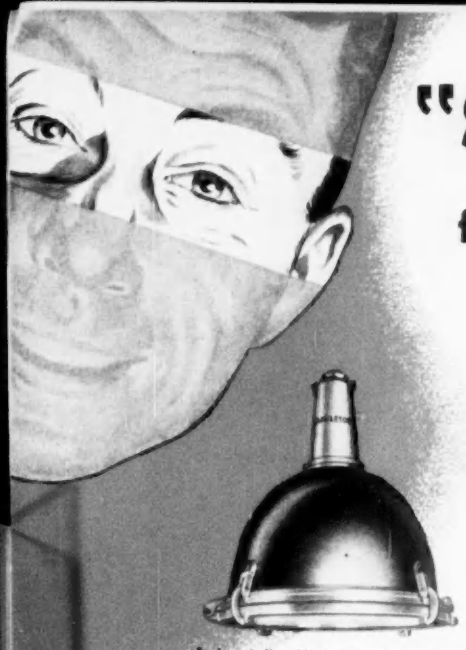

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Here is the most efficient inexpensive way possible to protect expensive transformers and other equipment from secondary faults.

Sturdily constructed of non-metallic material this cutout transfers current from the secondary to the tap directly through the link itself with no intermediate connection or transfers.

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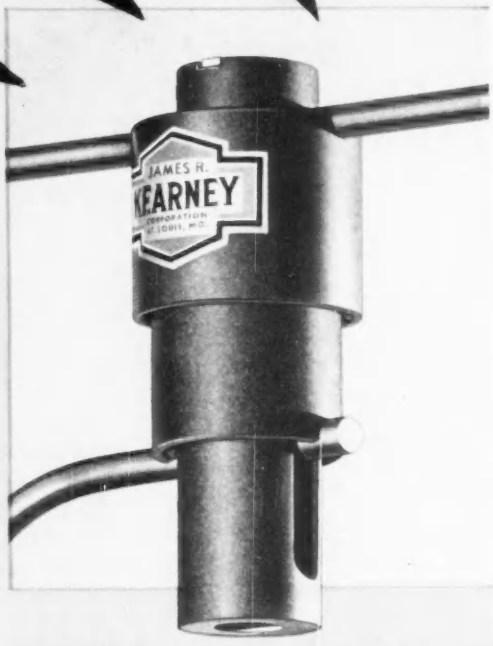

STEP ONE | STEP TWO | STEP THREE

STEP ONE: Drop the fuse link in the top opening of the cutout. Then, compress the lower shell and insert the tap wire in the hole provided in the link.

STEP TWO: Compress top shell and twist to the right or left so that it stays in the open position.

STEP THREE: Hang the cutout on the secondary, release top shell by twisting to make the final pressure contact with the secondary.

JAMES R. KEARNEY

BETTER CONSTRUCTION *Safer* MAINTENANCE

CAN FREE ENTEREPRISE SURVIVE?

No. 6 in a series of editorial messages

A WELL-INFORMED business man was discussing the Korean War—and what may follow. "I'm quite pessimistic about the outlook," he admitted. "And it's not so much the military picture which alarms me as it is the probable effect of this military program on our domestic situation. Fact is, I think our American way of life, as you and I have known it, is ending."

This comment is quoted because it seems to express the opinion of many intelligent people.

General preparations for war are likely to bring drastic changes in the nation's economy. They mean vastly-expanded government spending, a probable large increase in an already top-heavy government debt, perhaps even ultimate wild inflation; more government controls and less freedom for the individual; more power and political influence for organized labor; more danger that government's left-wing economic planners may put their socialistic theories into practice.

We can influence the decision

Britain came out of the last war with a socialistic labor government which, still in power, is developing a welfare state at the expense of individual freedom and opportunity. And what is happening in once-conservative Britain can happen here.

"The United States is almost alone as the last bulwark of capitalism," says a publication issued recently by the U. S. Chamber of Commerce. "We have not yet formally adopted socialism, as most other nations have, in varying degree.

"The question now being decided in day-to-day decisions is whether we shall follow these other nations into formal socialism, or whether we shall retain and improve the system of free enterprise which, despite some imperfections, has given us the highest standard of living ever known."

All of us can help influence this momentous decision. We can do this by discussing these problems with our business associates and employees and by writing to our congressmen.

We can, for instance, insist that the military program be financed as largely as possible on a pay-as-you-go basis. For a heavy burden of taxation today is better than a serious economic upheaval and a socialistic regime tomorrow.

But the burden of taxation need not be so heavy if government stops its spending-as-usual program during the war emergency. So let's urge our congressmen to eliminate the "pork barrel" rivers and harbors projects, defer such things as the proposed eight-billion-dollar Missouri River Basin farm plan, hold farm and other subsidies to reasonable levels, and effect such other economies in non-defense spending as, according to recognized fiscal authorities, might easily save several billion dollars a year.

The president calls for sacrifices—says the emergency demands that we work harder and put in longer hours. That's a commendable program. But will it apply also to the more than two million civilian employees of the federal government—who now enjoy 19 days (19 4-5 weeks) a year of paid vacations, sick leave and holidays?

New war-time controls have been set up by Congress. Let's be certain that such controls are used only to the extent that the emergency may require, and are removed when the emergency is ended; otherwise the ultimate goal of socialistic nationalization of industry, might be attained.

We face the urgent need of building up our military strength to meet the present grave communistic threat. And should the Korean conflict develop into World War III, it would be necessary that we throw everything we have into the fight.

But we must preserve the free-enterprise system which has put us in position to challenge communism today. We must maintain our American way of life if at all possible. We must pass on to our children the heritage of individual freedom and opportunity which we have enjoyed.

No place for Rip Van Winkles

TWENTY years bring changes--changes far greater in our fast-moving world than ever happened in Rip Van Winkle's day.

Americans are awakening to unpalatable facts--that the enterprise system which built our nation and made it strong is being subtly undermined; that advocates of backdoor socialism and communism thrive in our midst; most dangerous of all, that our young people are misinformed on economics.

For example, a recent survey of high school seniors reveals that they estimated that it takes only an $81 investment to provide a job. Actually, as shown by the 1947 census, the 2256 establishments of the iron and steel industry invested $545 per worker that year alone in new plant and equipment. Total investment to provide one job runs well above $10,000.

These youth had a similarly distorted picture of profits. They believe shareholders receive 24% of the sales dollar whereas they receive an average of less than 3%.

Misinformed minds are a ready field for imported false philosophies. And it is up to you, a business leader in your community, to take responsibility toward correcting these misunderstandings. The American businessman must not permit himself to be lost in Rip Van Winkle befuddlement.

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OUR READERS SAY—

Readers are invited to make use of these pages to express their own views on timely subjects.

Contractor Need: Sell Up—not Down

◆ THE ELECTRICAL contractors, as a whole, are the world's poorest business men. If other businesses were managed the same as the electrical contracting business they would soon cease to exist.

What the electrical contractor needs is a course in sound salesmanship. He must be shown the folly of his ways. In no other business will you find the customer being "sold down." Everyone else is interested in selling up.

The contractor, instead of doing a selling job, goes to great length to show his customer what he can dispense with and get his job done cheaper . . . cheaper than a competitor's bid. "Doing it cheaper" is the electrical contractor's slogan. Rather than take a little time and explain the advantages of utilizing three or four circuits and having a couple of spares to take care of future needs, the contractor reduces everything to the bare necessity. He does this in order to make his bid appear smaller.

If the contractor would sell the customer just what is actually needed, he could lose every other job he is now getting and still make more profit for himself. I would like to see a full length feature article in ELECTRICAL SOUTH on this subject.—**Al Woodard, Owner, AAA Electric Co., Carthage, Mo.**

The Girls Have Their Say

◆ Many people believe, generally, that electrical contracting is a man's job. No doubt it is, but we girls in the offices contribute a great deal as to whether or not our bosses make a profit on a job. Agree with me? (or aren't there any girls listening?)

I refer to the many kinds of records we have to keep, and in this letter I refer particularly to cost record accounting, modified somewhat to meet the local problems of our office. In my opinion, this cost record accounting is one of the most important branches of office work in helping any electrical contractor predict with a fair amount of certainty whether he will make an expected profit on a job.

In the study of completed jobs it helps to show why he didn't get his expected profit or, in some cases, why he lost money on some jobs. In my opinion any contractor who doesn't go to the trouble to keep detailed records on this score is just "stabbing in the dark" when it comes to determining expected profits or explaining actual losses.

I don't believe my method of cost record accounting is actually different from standard methods. The difference, if any, is merely in the close detail I give it. I don't miss a thing. Not one solitary connector, bolt, switch, plug, receptacle or staple gets by my watchful pencil. Correction: Maybe ONE staple might occasionally slip by without being accounted for, but never a whole box of them. I can check back on any job and determine whether or not any certain item was used up completely on the job, partly used up, partly returned to stock or lost on the job.

On any current job I can refer to these records and locate missing items or help the job foreman to locate items which he thinks were not sent out to the job. For example, suppose the foreman phones me and says he has installed the 150 feet of cable which he received but that he needs 100 feet more to complete the installation. I look up my records and discover that 250 feet were delivered on the job. Where is the 100 feet he needs? Without my record, he and all of us would have concluded that only 150 feet had been sent out, and an extra 100 feet would have been taken from stock and delivered to him. My records show that 100 feet is still on the grounds somewhere. A little careful searching reveals it 95% of the time. My record on this item increased the "profit" on this job to the tune of the cost of the 100 feet of cable which did not have to be replaced from stock.

A similar cost record account is kept for labor on each and every job. I can always refer back and determine the exact cost for labor on any completed job.

With these accurate and detailed cost records on materials and labor an electrical contractor certainly has it somewhat easier in preparing bids and avoiding loopholes. And I'm sure (are you listening, Girls?) our bosses appreciate our efforts, at least at Christmas time. Who can't Christmas come more often?—**Dorothy W. Fuqua, secretary, Weisfeld and Son., New Orleans, La.**

EMT in Concrete Presents Problems

◆ I ENJOY reading your section, "Our Readers Say—" it gives us a chance to interchange little but important ideas which we ordinarily take for granted or consider unimportant until we realize how much money we save by considering these little things and how much money we lose by neglecting them.

For example the important observation made by Mr. Nussbaum (see August issue, page 15) regarding the chemical action of certain oils causing deterioration of the wrappings on standard RJ cable, brings to my attention a related problem we have had to solve on one of our

present jobs, the Orleanian Apartment building now nearing completion in New Orleans.

On this job we have used electric metallic tubing throughout; it is faster to install and more economical. Realizing that the moist salt-laden air of this region causes rapid rusting of exposed metal parts like gun barrels, under parts of automobiles, etc., we should have figured a similar chemical action would take place on this tubing. We didn't give it any special thought until we discovered that the exposed ends of this tubing were rusting very rapidly right at the point where they came out of the concrete.

Of course, the water in the fresh concrete might have been the original cause of the rust getting started; nevertheless, we believe the moist salt-laden air was the chief factor in the rapidity of the rust development.

The solution of this problem was simple enough. We painted the exposed ends with a heavy coating of black asphaltum paint.

In connection with this problem we used several other ideas which saved time, labor and material. We cut off the tubing not to exceed 3 inches from where it came out of the concrete. This short stub saved considerable tubing but it mainly eliminated most of the damage caused by wheelbarrows, Georgia buggies, etc., rolling over it.

To further protect these stubs we put on an EMT connector, and inserted a wooden plug to keep out sand, plaster, shavings, etc. Then, when we eventually came back to connect up these stubs we found them unkinked and clean.

Incidentally, if stubs are longer than 3 inches they will break off very easily, especially if they have been allowed to get rusty, since rust weakens this kind of tubing very fast. It goes without saying that if the stub kinks or breaks off, it's a time-wasting and labor-wasting job of unkinking it or chipping into the concrete to expose a new end.

New Orleans isn't an exception when it comes to this rusting problem caused by moist salt-laden air. Any-and-all coastal regions are subject to it more-or-less, especially in the southern areas where the warm air helps the process along.—**E. E. Fenasci, Walter J. Barnes Electrical Contractor, New Orleans, La.**

Manufacturer Offers Lessons on Code

◆ I WAS VERY much interested in the article "Why Not Teach The Code," which appears in your August issue, because it covers a problem that we have often encountered. If Mr. Peele can arouse the interest of even a few contractors to the fact that the Code can be a good working tool for electricians, it will indeed have accomplished a great deal of good.

I am a little disturbed, however, by the feeling that many of your readers may be left with the impression that the Code is entirely neglected by everyone connected with the electrical industry. I wonder if your readers might not be interested in the fact that one electrical manufacturer appreciates the value of the Code to such an extent that it not only teaches it to all of its field representatives, but also to its distributor salesmen by means of a correspondence course?

Early this year, the Construction Materials Department of General Electric, which is responsible for the manufacture and sale of wiring materials, started a correspondence Code refresher course for its field representatives. At the same time, realizing that its distributor salesmen, who deal directly with contractors, engineers, and architects, would certainly be of more assistance to these customers if they, too, had a good working knowledge of the Code, the Construction Materials Department offered a correspondence course on the National Electrical Code to all of its distributors.

The offer stated that the distributor could enroll as many of his salesmen as he wished, with the provision that the distributor would appoint a capable supervisor from his own organization who would be responsible for handing out the lessons, grading the papers, keeping records, and generally supervising matters so that the lessons went smoothly.

The reaction to this offer was amazing. More than 1600 distributor salesmen's names were sent in by distributors, together with the names of the men who would supervise the course. Thereupon a course consisting of 12 lessons was drawn up by H. H. Watson, commercial engineer of the Construction Materials Department—and incidentally, a nationally recognized authority on all phases of the Code. (He is a member of the National Electric Code Correlating Committee and numerous other related organizations.)

The first set of lessons was sent to each of the distributors' supervisors, together with a folder for each enrolled member in which all of the lessons and answers could be filed, as well as records of grades, etc. General Electric supplied, also free of charge, a copy of the current National Electric Code for each man enrolled in the course. It also furnished them with the new 1949 Supplement when it was issued.

Answers (prepared also by Mr. Watson) to this first set of lessons were sent to the supervisor along with lesson No. 2 and these were used to grade the papers. Similarly, when lesson No. 3 was issued, the answers to lesson No. 2 were sent out. In this way, no one could possibly have previous knowledge of the correct answers—a precaution that was taken in case any of the distributors should award token prizes at the end of the course. Time and again we have had statements from salesmen and distributor principals alike that this course is one of the most valuable aids that have been given to salesmen.

The Construction Materials Department endeavors to supplement the course by articles in its monthly distributor salesman's newspaper, "The G-E Circle News," with articles that cover such subjects as recent amendments to the Code, when and where IAEI meetings are held, and other articles, written by G-E engineers on pertinent wiring or Code matters.—**Lillian Nygren, Construction Materials Dept., General Electric Co., Bridgeport, Conn.**

"The immunizer against the disease of communism is a certain feeling . . ."

MR. WALTER S. GIFFORD

"It is the feeling of a man who owns a home, a bank account, an insurance policy. *It is the feeling that an employee on the Payroll Savings Plan has when he gazes at his accumulation of Savings Bonds and realizes that here is palpable evidence that he has made a profit on his job—that the profit system works for him as well as for his employer.*"

Mr. Gifford has believed this and worked for payroll savings plans for thirty-seven years—since 1913, when, as Statistician of the A. T. & T., Mr. Gifford developed a payroll savings plan for the purchase of A. T. & T. stocks.

By 1938, A. T. & T. employees were offered a Payroll Savings Plan for the purchase of U. S. Savings Bonds. To date, Bell System employees have invested ***more than half a billion*** dollars in savings bonds, with a maturity value in excess of $675,000,000.

In upwards of 21,000 large companies, more than 8 million Americans are investing $1,600,000,000 in U. S. Savings Bonds ***every month.*** To the systematic saving of these men and women—and the whole broad co-operation of executives like Mr. Gifford—is due in no small measure the important feeling of ownership shared by the Americans who own 50 billion dollars in U. S. Savings Bonds—against 9 billions at the end of the war!

Every Payroll Savings Plan is a reflection of the vision and enthusiasm of the top executive of the company. He sets behind it, ***personally,*** employee participation is high—to the benefit of the country, the company and the employee. If the interest of the Big Boss is active participation, men will work well toward the 100% mark. The top man is the key man on a Payroll Savings Plan.

Get in touch with your State Director, Savings Bond Division, U. S. Treasury Department. He will help you get in a plan . . . or he will show you how to increase employee participation—without undue effort or high pressure tactics.

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ELECTRICAL SOUTH

Wired Any Homes

The home wiring picture has changed, and the electrical contractor who answers the above question with, "We don't fool with that stuff!" may be passing up an opportunity. As John Terrell, of Chattanooga, explains in this article, adequate wiring promotions and new services such as electrical heating have increased the size of residential wiring jobs to the point that even the largest contractors may find them worthwhile. Below, Kenneth C. McClure, left, supervisor of Terrell's residential wiring department, goes over plans with Mr. Terrell.

◆ FROM its founding in 1916 the Terrell Electric company, of Chattanooga, Tenn., had always been primarily an industrial and commercial contracting firm. The simple fact was that the comparatively short-profit residential wiring field was very unexciting with the big industrial and commercial jobs apparently waiting for Terrell to get around to them. But since 1946 John W. Terrell, president and manager of the firm, has carried out his end of nearly 1300 residential wiring contracts.

Like his father, C. E. Terrell, before him, John Terrell maintains a consistently high volume of industrial and commercial work. The residential work represents additional activity which has increased the company's total volume of business some 25%—business which would have continued to go elsewhere if Terrell had not increased his efforts in the residential field.

Why did Terrell expand his operations to include a big chunk of the house wiring being done in his area? "Because," he answers, "we found that with the wider use of electrical heating and more appliances residential wiring has become a more profitable activity. This activity has filled in a gap in our operation so that we can now supply every residential electrical need, while still carrying a high level of industrial and commercial volume."

Terrell the contractor is also Terrell the electric power booster, especially when it comes to residential heating. He can show you how, with proper insulation, a house costs less to build when fitted with electrical heating facilities. "The wiring price tag is higher, but the total cost of the construction is less. It's like this.

"Our average cost to the builder for a wiring job before 1946 was about $200. This figure jumped to about $500 with the installation cost of heating units. With various other additional appliances, the size of the job increased to perhaps $650. The total price of wiring a typical five-room house has thus more than tripled in the past four years. But the total cost of the construction to the builder has been lowered because the cost of basement dig-

by Sam Carson

Lately?

Lots of contractors are finding that people will pay for Adequate Wiring, when it's properly sold. Here are some of the things alert contractors are doing to build up their home wiring jobs . . .

PROVIDE A WIRING LAYOUT based on adequacy standards every time they're called in on a job. Then, as they go over the layout with their customers,

EXPLAIN THE ADVANTAGES OF ADEQUATE WIRING—the only means of using electric service to the extent required for modern living:

1. How it saves them money in the end by eliminating costly extensions

2. How it provides maximum convenience and efficiency

3. How it eliminates decorating problems

4. How their home will be safer, because folks don't have to stumble around in the dark

MAIL SALES LITERATURE to the public—to architects—and general contractors.

ADVERTISE IN THEIR LOCAL NEWSPAPERS, to tell the world that Electrical Living Takes Adequate Wiring.

DISPLAY THE ADEQUATE WIRING EMBLEM on their trucks and in their windows to remind people that they are the contractors who can prepare homes for modern electrical living.

"But," the busy contractor will ask, "where can I get all the sales and advertising material?"

The answer is simple—from the National Adequate Wiring Bureau, the service agency that helps the whole industry promote adequate home wiring. The Bureau has ready-made sales and advertising materials that the electrical contractor can use. There is a whole catalog of pamphlets, booklets, advertising mats, decals to put on your trucks, cards for your windows, campaign plans that show you how to handle your promotion on a step-by-step basis, and the Adequate Wiring Reporter packed full of ideas and information on successful Adequate Wiring programs. All of this is available at cost for use in selling Adequate Wiring. For details, write to the National Adequate Wiring Bureau, 155 East 44th St., New York 17, N. Y.

going, furnace installation, pipe lines, and so forth are saved. Not only that, but electrical heat has made living more pleasant."

The Chattanooga contractor is a regular promoter of radiant heating. Thirty per cent of the houses he has wired in the last six months included radiant heating in the job.

For a more profitable field in residential work, Terrell gives credit where it is due. He declares that, "The combined effort of the local utility company and electrical contractors in the Chattanooga area is responsible for the greater public interest in adequate wiring and modern electrical facilities. This has resulted in a more profitable field for the contractor in residential work."

Terrell's first step, after he decided to go into the house wiring market, was to set up a special residential wiring department. As supervisor of the department he appointed Kenneth C. McClure, long connected with the firm, and an unusual combination of electrical, sales and executive knowhow. McClure got together a house wiring crew, then went out after customers.

He contacted builders in person, telling them that his company was now set up to do a better wiring job at less trouble and expense than competitors could offer. He offered an unconditional one-year guarantee, in writing. To each builder so approached, reports Terrell, the first jobs sold all the rest. Regular contact with builders and building contractors helps to maintain a good volume.

(Continued on page 50)

Let's Talk Business

There's a simple way of eliminating misunderstandings and keeping collections on a profitable basis

by David Craton
Craton Electric Company
Houston, Texas

◆ Do you EVER speculate on just what you would do if you had all the money you had been beat out of? Does this question bring forth sighs and, in some instances, gnashing of teeth? There is a way to prevent this, you know.

I have been in the electrical contracting business since I was twenty-one years old. After I went broke and was carrying my tools back and forth on a street car in New Orleans, I resolved then and there that when I got back on my feet, I would never go broke again. For it was simple to figure out that if I had collected the full amount due me, I never would have gone broke.

Going broke has its advantages, however. It stimulates one to think that being the cheapest pastime such circumstances affords.

The average electrical contractor is somewhat in the position of your independent druggist. Among professional men he is not accepted whole heartedly as a professional man, and among business men he is looked upon as being more a professional man than a business man. Strictly speaking he fits in neither categorys he is a combination of both, if he is successful. This holds true with the electrical contractor.

But whatever his status one thing is certain: he must make a profit to remain in business. Both his banker and supplier will verify this. And you can't show a profit, if you have to discount your statements in order to get a settlement from your customer. This situation is happening daily across the country.

Type of Business and Customers

Fully 75% of our work comes under the classification of modernizing. Personally, I prefer this type business. Not only is the margin of profit greater, there is no slumping-off as there is in the new-building field. Too, this type of work is unassumable and has no saturation point.

The majority of our work is for business men. We either undertake a business establishment remodernization program, or we go into the business man's home. The business man is the most likely prospect for this type work. The workingman's cottage calls for little of our service.

Before you can deal successfully with business men, you

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Craton Electric Co.

Houston 3, Texas
Date

WORK ORDER

Add to Job No. Address

I hereby authorize the above to furnish and install materials and render other services as follows:

I understand this work requires materials and labor and I agree to pay for same.

Name of Co.

Signed by

When "extras" are involved after a job is under way, Dave Craton, of Craton Electric Co., Houston, Texas, finds this simple form advantageous for obtaining a definite authorization for any such extra decided upon. The form states plainly that the extra work requires materials and labor and that the customer agrees to pay for them. Such a form prevents many embarrassing misunderstandings.

JACKSONVILLE EXPANSION

by C. E. Wright

◆ As part of Jacksonville's $18,000,000 expansion of its municipally owned electric power system, work was recently started on what is said to be the longest submarine cable crossing of its type ever to be installed. It is being laid under the St. John's River which bisects the city.

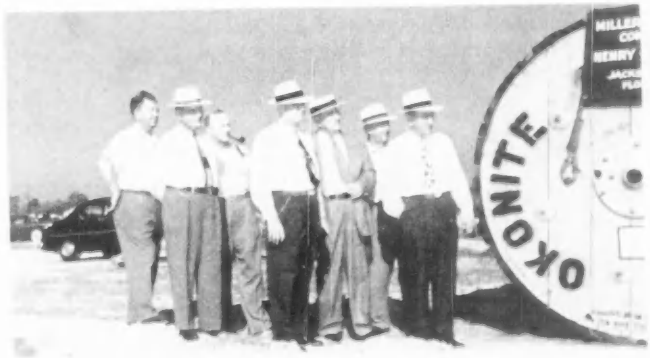
A submarine crossing was decided upon because of two factors, one that the St. John's River is a navigable stream for ocean-going ships and an overhead crossing might obstruct navigation, and the other that an overhead system was not practical in an area which is almost wholly residential.

The cables, encased in seamless steel tubing, were pulled across the river by a 100-ton winch and a 1⅜" flexible steel rope.

The installation is unique in that it includes two river crossings in dual pipe lines, one of which is approximately 4,400 feet

(Continued on page 30)

Submarine crossings with 69 kilovolt cable were among the problems involved in Jacksonville's power system expansion program. (Above) A view during the laying of the pipe and cable. Winches were rigged to relieve friction on ground section of pipe. (Below) On hand at the start of the pulling operations, left to right, Bill Cannon, business agent, IBEW; C. Washburn, chief engineer, Jacksonville Utilities; Wm. A. Chester, president, Henry Ihle Co., electrical contractor; Jacksonville Utilities Commissioner, J. D. Kennedy; H. G. Miller, president, Miller Electric Co., electrical contractor; Henry Ihle, and R. B. Cowan, engineer-manager, Jacksonville Utilities.



How to Wire the Drive-in

Alert electrical contractors can sell drive-in theater operators the advantages of car heaters as a means of increasing profits in cool weather

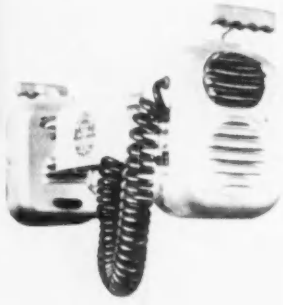
by L. H. Houck

◆ WHEN ALL drive-in theaters can turn on the heat in each car, they can also turn on the flow of profits to the box office because the big problem facing most drive-in operators today is the short operating season.

Rain is no problem. High intensity lights now give a bright image and many operators report that looking at a movie with the rain pattering down on the car roof is popular.

But no movie looks good from a cold car. Theaters in the middle area of the United States can add several months to their operating year by the addition of car heaters. Those drive-ins located in the South have cold days that make car heaters necessary and desirable to keep attendance up.

Ways of wiring drive-ins for heaters are few at present and the future may see many changes.



This is a typical combination heater and speaker installation which permits serving two cars from one post. Units are damp and water proof and include a 250-watt heating unit and a shade-pole motor operated fan.

Basic Material

Contractors who are interested and who may be approached with electric heating questions from drive-in operators will find helpful this basic material that has been gathered from manufacturers, operators, and other electrical contractors who have had experience.

There are now several manufacturers making "in-a-car" heaters and one manufacturer makes a combination speaker and heater in one plastic or ceramic housing. (Theatrecraft Mfg. Corp. Cleveland, Ohio.) All heaters require an enclosed fan.

Here are the general specifications of the combination unit which sells for $42.50, which presumably includes two combination speaker-heaters, supplying two cars from one post. Specifications listed must be supplied in any brand selected to meet the particular needs of the job.

The unit can be handled in any fashion without burning the holder or the upholstery of the car. It is fully grounded. It can be laid in the car seat. Possibility of shock to the customer must be fully eliminated. The case will not rust, crack or chip and it is water and damp-proof.

Heating Element Details

The heating element is General Electric Calrod and can be submerged in water without damage. Wattage for both small motor and the element is usually rated at slightly less than 250 watts and they may be had for operation on either 110-volt or 220-volt lines.

The heating element has an estimated life of 6000 hours which is equivalent to eight years life in a drive-in. This would indicate that the element replacement business will never amount to much.

The motor is completely weather-proofed, is of the shaded pole type, with all metal parts made of stainless steel. It is noiseless and permanently lubricated.

The single heater unit is similarly constructed but lacks the speaker. Existing drive-ins with speakers already installed are ex-

for Heat

The principal advantage of this method of wiring drive-in theaters for heaters is that it reduces the amount and size of feeder wire. The distribution panels and the power company's transformers should be as close together as possible and as near the field as is feasible. The dual power company transformer installation will affect considerable savings in underground wiring.

pected to buy the single heater unit. This model being described which sets the specifications for all of them sells for $26 per unit and a unit is described as being big enough for two cars. All this described material has Underwriter approval. Patents are pending and the equipment has been out but a short time.

Each unit should be fused at the junction box or post which supplies two cars. Thus if a short circuit does develop it will only affect the one shorted speaker.

Contractors may be sure that car heating is something that every drive-in operator is interested in and something that is vital to increasing profits.

Few existing circuits in drive-ins can be used to carry the heater load.

Although the load will be intermittent, the longest one-half ramp in a 400-car drive-in will contain 18 units drawing 250 watts, which would require No. 8 wire in some layouts and as large as No. 4 in even larger in some other layouts.

Heater Control

The control of the heaters is to a switch operated by the customer. The average car may be heated from a 30-degree temperature to 70 degrees in less than 12 minutes, according to one manufacturer, and the cost of the current will be less than one cent per hour, depending on the rate.

Wiring this load on a drive-in is one that will attract the skill and ingenuity of both contractors and engineers.

The accompanying diagram for a typical 400-car drive-in shows the wiring arranged with two distribution panels and two power transformers furnished by the power company. These are situated on each side and as near the field as possible and designed to feed each one-half ramp from each panel.

In further explanation for those who are not to become familiar with drive-in terms, a ramp is a semi-circular row on which the cars park. They are called ramps because the ground has been banked into a ramp to elevate the front wheels of the car so that the occupants can get a better view of the screen. The ramps are correspondingly narrower as they get nearer to the screen.

For wiring purposes the full ramp is divided in the center into a left and right half. Each half ramp becomes a branch circuit. For instance in the diagram referred to, the longest half ramp has 18 units connected to nine terminal posts. There are nine complete ramps. The shortest one-half ramp is No. 1 which has but six units. Thus it is apparent that wire sizes can be used to fit the load at a considerable saving of copper over an arbitrary use of large size wire. This saving of copper is one of the important things in drive-in as it is with other construction.

In the diagram, the output of the distribution panel is single phase, three-wire at 220 volts. Heaters are then connected to alternate conductors and to the grounded neutral in order to obtain a balanced load on each side of the center-tapped transformer secondary.

Dimensional Considerations

Dual power company transformer and distribution panel installation will save considerable in underground wiring. The dimensions of a drive-in are something to be considered. On this typical 400-car drive-in shown, one-half a ramp on the last row is more than 325 feet long. The entire job is set down on a plot

(Continued on page 52)

Problems in Store Lighting

by H. M. White

Lighting Service Department
Consolidated Gas Electric Light and Power Co., Baltimore, Md.

A louverall ceiling is featured in the show window at the right, supplemented with 150-watt R-40 spots in recessed units. The window at the left uses 200-watt recessed units supplemented with recessed troffers of four 20-watt lamps each.

•

◆ LIGHTING for stores involves more than illumination. It is a function of interior design as well. The store must attract attention, must have individuality, must also compete with the neighborhood stores, and finally it must sell merchandise quickly.

The importance of each of these factors was emphasized with the owners and architects when lighting plans were prepared for the Irvin Department Store, in Baltimore, recently. As a result, lighting was recognized as one of the most important factors in the success of such a store, and therefore in the over-all design of the store, the lighting received a high priority over other features.

The store consists of a first floor and basement. It is an L-shaped building, being 136 feet long with 26-foot width at the front and 42-foot width at the rear. The first floor ceiling is plaster 11½ feet from the floor, and the basement ceiling is acoustical tile, 9 feet above the floor.

After consideration of many lighting treatments for the first floor, it was finally decided to use a patterned lighting installation with Mitchell Module "D" equipment. This decision was made since the surrounding stores were using continuous row fluorescent, individual fluorescent units, and even the old enclosing globe incandescent. Therefore, to make this store individual and a standout over the competing stores, the patterned job was proposed.

The units are mounted to form diamond patterns on the ceiling, each diamond consisting of 4 four-light 75-watt T12 425 milliampere slimline units. There are a total of nine patterned diamonds, surface mounted on the ceiling, spaced on 16 foot centers, or a total of 36 four-light 75-watt units with 4500 white lamps, to deliver 100 foot-candles after two months operation.

The brightness values are as follows: bottom louvers, 350 foot-lamberts; side panels, 200 foot-lamberts; ceiling in center of diamond, 30 foot-lamberts; and walls, 35 foot-lamberts. The brightness ratios are such as to make a comfortable visual environment from the standpoint of a store operation.

The wall cases on the first floor are directly lighted with 254 foot of hot cathode fluorescent strip lighting, shielded by a cornice. The walls are plaster painted pastel green of 50% reflectance, while the wall and floor cases are wood with a very light blond finish. The floors are done in green

(Continued on page 37)

Distinctiveness in store lighting can sometimes be gained by using the most recent lighting developments — innovations that will not be found in other nearby stores. A patterned lighting installation made up of Mitchell Module "D" units has given the main floor of Irvin's such distinction.

Recessed louvered troffers is always a good solution for lighting low-ceiling areas. In this basement area of Irvin's with a nine-foot ceiling, 75 foot-candles are obtained from three-light 40-watt troffers spaced 8 feet apart. Structural limitations made it necessary to "break" two of the rows.

The Right Supporting Records Ease Tax Problems

by Arthur Roberts

◆ BECAUSE TAX RATES are high, the taxpayer should take every permissible deduction, but in order to get all that's coming to him, he must have records to back him up so that he can justify the deductions in case they are challenged by the Collector. The Treasury is checking returns more minutely than ever before because it needs every cent of revenue to meet expenses.

Importance of Records

Many taxpayers lose out on deductions because they lack the auxiliary records that provide a breakdown of the book figures. Such taxpayers may enter the correct figures in the books, but they have no supporting records that can be checked in detail to show that the figures are correct. The result may be a refusal of the Collector to allow certain deductions and a penalty imposed for the difference between the tax paid and the tax the Collector contends is due.

Here are the supporting records the dealer should keep in satisfactory detail and file away systematically for reference in order to justify the entries in his books and give him all the tax benefits to which he is entitled.

(1) Inventory sheet. An important factor in the determination of net profit, sometimes the most important factor, is the valuation placed on inventory at the end of the taxable year. If inventory is valued too high, profits will be too high on paper, and you will pay an excessive tax. If inventory is valued too low, profits will be too low on paper, and you pay too little tax with a good chance that you will be penalized when the Treasury checks your report.

Inventory should be carefully listed, item by item, on an inventory sheet purchasable in stationery stores, recording prices at cost or market, whichever is lower. Unless your inventory valuation is backed by an actual count detailing the items and prices you will have difficulty defending your inventory figure if it is challenged by the tax office. Do not take inventory at selling prices or you will inflate your tax expense.

(2) Bad debt ledger or file. The taxpayer is not permitted to deduct for a bad account in other than the year it is ascertained worthless. The decision as to when this occurs is not definitely prescribed by the Treasury; nevertheless, the taxpayer must be able to convince the tax officials that he has written off an account in the year he found it worthless, not in an earlier or a later year.

When a taxpayer transfers an account from his accounts receivable ledger to a bad accounts record, this is usually proof that he considered it worthless in the year he took such action, and so he may deduct for it in that year with reasonable assurance that it will be sustained.

(3) Depreciation schedules. Depreciation, because it is only an estimate at best, is a troublesome account to the taxpayer and the Treasury. However, where the taxpayer keeps detailed depreciation schedules on business property, furniture, fixtures, office equipment, trucks, servicing equipment, etc., showing original cost, the life-span in years, the annual deductions, improvements and repairs made on depreciable properties, the unrecovered cost to date, etc., he stands a better chance of having his deductions passed without challenge than if he depends entirely upon a "Reserve for Depreciation" account in the ledger, which shows only the amounts charged off annually. Depreciation schedules may be kept on cards or on looseleaf sheets.

(4) Withholding tax form. This provides a separate record for each employee, either on a card or a looseleaf sheet obtainable at stationery stores. These forms simplify the sending of withholding monies to the Collector, minimize errors in reporting tax and save penalties.

(5) Detailed journal entries. Probably 95 per cent of all transactions are the run-of-the-mill type covering items of income and outgo which are identifiable easily by their entries under special columns or in books specially kept for the purpose. But some transactions require considerable explanation, particularly if they run to sizable sums.

Say that the taxpayer has a fire not entirely covered by insurance. If he loses $1,000, this is deductible, but he should enter in his journal or in some supporting record a complete explanation of the loss. These unusual transac-

(Continued on page 54)

RELAY TESTING and MAINTENANCE

by C. C. Jones

Senior Engineer, System Protection
Alabama Power Company

◆ RELAY TESTING and maintenance is a very specialized phase of the business of generating and distributing electric power. It is a very important part of the work performed by the protection or test engineer. The actual testing of a relay is generally a comparatively simple matter once the relay is isolated from its operating circuit. The main problem confronting the test engineer comes in making the relay available for test without loss of system protection by insuring that the over-all protective and control scheme continues to function properly while such tests are being made.

This article describes the testing and maintenance procedures followed by Alabama Power Company and developed over a period of years. They include the following:

Testing Personnel—Ability requirements and division of responsibility between central office and local test engineers.

Test Schedules

Test Equipment—Special portable kits and built-in facilities at plants and substations.

Test Procedures—With special reference to isolating equipment for test with a minimum reduction in protection.

Records

The test engineer must be familiar in detail with all the different types of relays and auxiliary equipment in use on the system. He must have a working knowledge of system operation, the characteristics and capacities of generators, transformers and lines, and the purpose and operation of various types of automatic control schemes in use. With the rapid development of all forms of protective and control equipment over recent years, there is little standardization and there are nearly as many variations of relay types and control schemes as there are substations. Protective equipment testing must be extended to include all incidental and auxiliary equipment without interruption to service and with a minimum reduction in protection to other equipment involved.

All this requires a group of test engineers, with basic technical knowledge, who by inclination and training have specialized in this type of work.

Generally this group will work out of central headquarters and will handle all plant and transmission substation testing with assistance, if necessary, from local personnel. It is essential from the standpoint of both safety and efficiency that a minimum of two men work together on most jobs.

There is a growing tendency to de-centralize maintenance work and turn as much as possible over to plant and division personnel. This applies in particular to distribution substation relays and to routine checks of the operation of circuit breakers from various types of automatic control schemes. Much of the latter lends itself to routine test schedules by operators or maintenance men working according to detailed instructions for the particular equipment in question. This also includes regular checks on operation of various current relay trip channels. Any failures or questionable operations are checked by the division substation engineer, if available, or by test engineers from central headquarters.

Protective Equipment

Protective equipment varies from the simple fuse to complicated distance, pilot wire and current relays. All of these must be co-ordinated so that a maximum of protection is afforded

This article is adapted from a discussion presented by Mr. Jones at the recent conference on Protective Relaying held at Georgia Institute of Technology, in co-operation with the Southeastern Electric Exchange and AIEE.

ed all equipment, and so that no unnecessary interruptions to service occur when it is necessary to isolate automatically a defective piece of equipment.

Co-ordination, testing and maintenance of these various types of protective equipment may be grouped as follows:

Distribution Line Fuses and Pole Top Circuit Breakers—Application and co-ordination is handled by Distribution Department engineers after checking with system protection engineers on characteristics of relays supplying these lines. Maintenance of the pole top circuit breakers is handled by district or division personnel, as required. A sampling maintenance program is being carried on each year but so far it has not shown a sufficient trend to establish the necessary frequency for a routine maintenance schedule.

Distribution Substations—Relay and recloser settings are specified by system protection engineers but actual checking of relays and control schemes is handled by division personnel under direction of the division substation engineer. In special cases and where qualified division personnel is not available, test engineers from the central office handle this work.

Plants and Transmission Substations—Calculations, relay co-ordinations, relay setting and testing are responsibilities of the central protection engineers, who ordinarily handle all details of checking and testing during cut-in and all routine testing at these installations. Where qualified personnel are available in the divisions or at plants, they assist in such work and are frequently called upon for "trouble-shooting." Unfortunately such personnel is not always available.

In order to insure that protective and control equipment continues to function as planned, a periodic testing and maintenance program must be carried out. Most protective equipment operates very infrequently but is of no value if it is not always ready to operate. Maintenance after a failure to operate is not sufficient.

Test schedules for circuit breakers and their control schemes are carried out periodically — every month where possible—by plant and transmission substation personnel. These include tripping, trip-free, anti-pump and reclosing operations. They are made, as far as possible, without removing covers from relays.

Division personnel make a yearly routine check on all distribution substation relays and control, with operation checks wherever possible. It is our practice to have a central office test engineer accompany the division test engineer over his territory whenever there is a change in personnel or every second or third year in any case.

Testing Periods

Plant and transmission substation relays are scheduled for complete checks once a year. This will include operational checks in addition to those normally made by local personnel.

In relay testing, as in all other types of maintenance, the tendency towards doing everything during normal day work hours makes it necessary to provide every practical means for removing equipment from service for test and maintenance without interfering with system operation. Scheduling routine relay tests to coincide with periods when equipment is out of service is normally impractical although some checks can safely be made only at such times. Except in the case of generators and associated equipment, most routine tests are made during normal load periods and during normal working hours.

Engineers' Tools

Electrical meters, test instruments, plus the slide rule are the working tools of the test engineer. In addition to those instruments, which are necessary for general testing, and special instruments, such as oscillographs, the oscillograph, wavemeter, volt-ohm-milliammeter, etc., are our two types of special test kits.

One consists of a load box, ammeter and switches and is a specially equipped case to simplify connections and control. This is used for most routine testing where only current control and timing is required. A special feature of this kit is the plug and socket connection for the timer which speeds up connections. Figure No. 1 shows the electrical connections for this test kit which is made up

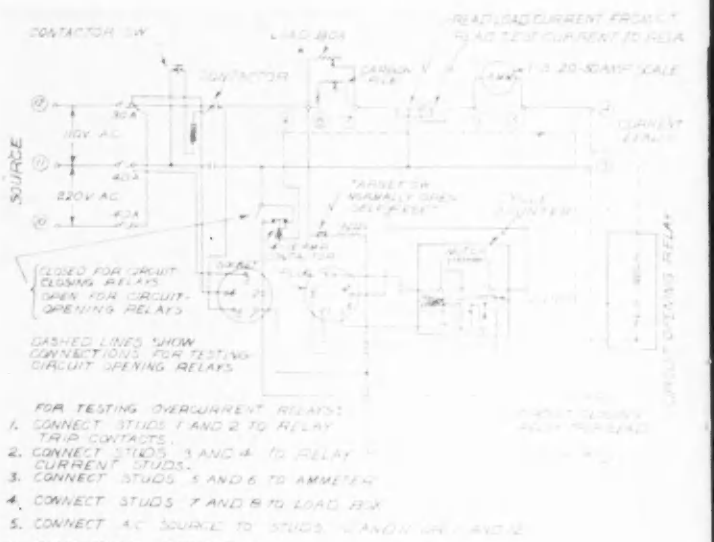

CONTACTOR SW
LOAD BOX
CONTACTOR
SOURCE
110V A.C.
220V A.C.
CLOSED FOR CIRCUIT CLOSING RELAYS
OPEN FOR CIRCUIT OPENING RELAYS
DASHED LINES SHOW CONNECTIONS FOR TESTING CIRCUIT OPENING RELAYS
FOR TESTING OVERCURRENT RELAYS:
1. CONNECT STUDS 1 AND 2 TO RELAY TRIP CONTACTS.
2. CONNECT STUDS 3 AND 4 TO RELAY CURRENT STUDS.
3. CONNECT STUDS 5 AND 6 TO AMMETER.
4. CONNECT STUDS 7 AND 8 TO LOAD BOX.
5. CONNECT A.C. SOURCE TO STUDS
6. PLUG CYCLE COUNTER IN.

Fig. 1—This special relay test kit consists of load box, ammeter, and timer, plus a specially equipped case to simplify connections and control.

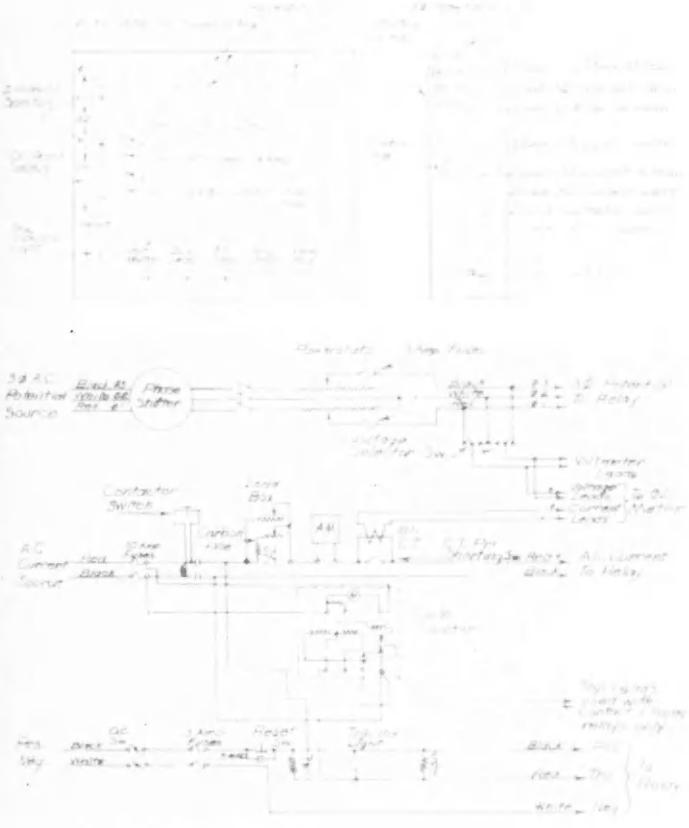


Fig. 2 — Distance Relay Test Kit

A-C Potential Circuit — To acquire a balanced 3-phase potential, first set voltage selector switches on phase one to phase two. Adjust the left hand powerstat to read desired phase-to-phase voltage on voltmeter. Then set voltage selector switches on phase 2 to phase 3. Adjust right hand powerstat to read desired phase-to-phase voltage on voltmeter. Next set voltage selector switch on phase 1 to phase 3 and read voltmeter to check voltage balance.

A-C Current Circuit — The circuit is closed through the contactor relay energized through contactor switch. The circuit is loaded by load box and carbon pile. The current transformer primary is part of the a-c current circuit and shorting switch should be left open when C.T. is being used. This C.T. ratio does not hold if C.T. is being used to step up current.

D-C Circuit — Reset switch breaks circuit made up by relay contacts. Indicator light burns when contacts close. Switch should be reset immediately after light comes on.

For testing circuit closing relays the C.T. shorting switch must be closed. Trip leads will be connected to cycle counter as shown above by dashed lines.

gearing and panel layout are the kit which is built into the same size fibre case as the overcurrent test kit. As will be noted, it has two small powerstats for voltage control plus controls for current and phase angle. Load box, phase-shifter, voltmeter, C.T. and phase-angle indicator are all connected externally with spectacle leads. This kit permits use of three-phase voltage from potential transformers while the single-phase current is supplied through station service. A potential transformer source is necessary to obtain three-phase 120-volt 2-wire service is seldom available. It will be noted that a small high-ratio current transformer is used as supply for the phase angle indicator in order to keep within the rating carrying high current tests.

In addition to specialized equipment for testing relays a step-up lighting transformer is used for checking ratio of bushing type current transformers. A potentiometer or equivalent is also used for checking turn ratio and excitation characteristics. Small dial voltmeters for checking current transformer polarity, phase rotation, etc., are part of every test kit.

Isolation Facilities

In addition to portable test equipment it is necessary that relay circuits at each installation have facilities for safe and speedy isolation of relays for tests which reduce the necessary relay "out of service time" to a minimum. These facilities will vary from the old style test links and test switches to modern test blocks and finally to drawout relays with their built-in testing facilities. We have come a long way since the days when it was necessary to short out C.T.'s in winding-breaking wire around their secondary terminals to avoid high spots on the load insulation and to remove wires from relay terminals, in order to clear the circuit for test. Some of these procedures would make a cooling shiver run down your spine. Department store engineers in this country please note!

Probably the drawout relay is the biggest single development to facilitate testing and maintenance

(Continued on page 564)

MODERN METHODS

Improved devices, labor saving tools, short cuts, new ideas in electrical construction.

Saw for Drilling Ceiling Box Holes

by Jim R. Sullivan

Sullivan Electric Shop
Jefferson, Texas

◆ THOUGH I have been in the wiring game for a number of years I recently learned a new trick which is doing a better job and saving lots of time and hard work.

I was watching an auto mechanic cut holes in a car's dash for installation of a heater. He was using a hole saw adapted to and driven by an electric drill, and the idea came to me that I could do the same thing in cutting holes for ceiling boxes, provided I could get a saw of the right diameter.

I found I could buy a 3½ and 4 inch saw with mandrel and pilot drill to use with both from one of my wholesale suppliers. Since I already had a half-inch electric drill, this made the additional outlay very small.

The idea worked fine. I could cut holes in the ceilings of a number of rooms in just a jiffy without being all tired out when I finished. Next day I had the inspector guessing how I had done such neat and uniform jobs with a 'keyhole saw'.

There may be others in the game who, like me, have been at it a long time but still do not know there is an easier way to do this arm tiring job.

Contractors' Service Truck

◆ A SPECIAL light-weight electrical truck, designed to expedite service to customers, cut down costs on hauling, repairs, installation, etc., is showing many advantages for Specie Electric Shop, electrical contracting organization in Moberly, Missouri.

The light-weight service truck body is mounted on a 3/4-ton Chevrolet pickup chassis. Most outstanding feature of the truck is the use of two compartmented sections in place of the usual sidewalls, which leaves plenty of space in between for carrying large transformers, control panels, switchboards, etc. The body is 8 feet long by 6½ feet wide, and the bed to date, has proven adequate for hauling almost any type of large-scale electrical equipment at minimum cost.

Compartments on the left are constructed of 16 gauge, heavy-duty autobody steel, and, as a particularly important feature, are covered with a swinging lid-type door, which locks tightly with tumbler locks, to make it possible to leave the unit out overnight at any location, without fear of theft.

On the left side, a single panel, 6 feet long by 2 feet high, lets down to form a handy workshelf, and gives access to 26 compartments of various shapes and sizes, in which tools, electrical fittings, parts, nuts and bolts, etc., can be distributed, for easy location.

Electrical installations are simplified by this specially designed truck body with its time-saving ladder mounting arrangement.

Just in front of the wheel well is a single large compartment, in which more bulky tools or equipment can be conveniently carried.

On the right side, the compartment system is duplicated, with the exception that a few inches below the top is a long, continuous tray, divided into 18 compartments, in which very small items, such as nuts, bolts, screws, fuses, switches, connectors, etc., can be carried. Below this is a 6 foot by 8x8 inch compartment long enough for extended wire cutters, sledge hammer, wrenches and other lengthy tools. The compartments are protected with triple-sealed, weather-tight doors, which makes weather no object on any job, while the inside reinforcing frame and door panels are formed from a single steel sheet for strength and longer life.

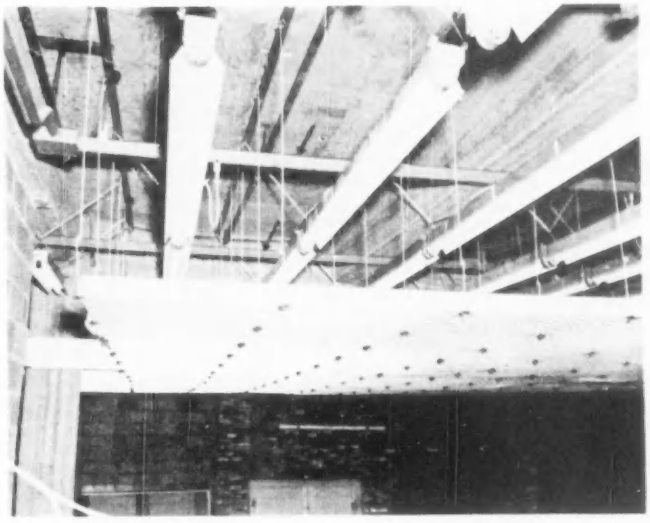
One of the most novel features is a slot type compartment between the wheels, and under the body, access to which is gained by lowering the full-width tailgate. This space, with the slot 8 inches high, is large enough to accommodate typical neon signs, large flat metal plates, crates, and other items, out of the way, protected against dust and danger, and completely hidden from public view.

Lastly, Specie Electric Company has done away with all of its "ladder problems" in the erection and maintenance of electric signs, in which the firm also specializes, with one of the most simple, effective ladder stunts ever developed. As shown, the ladder which is carried by the light-weight service truck, extends 27 feet in the air, yet was installed at minimum cost.

Used is a simple double extension ladder, hinged on a pipe-rack support, which arches across the rear of the truck from compartment to compartment. The ladder is easily swung into place, lowered so that the button is held in place by the bumper, and block and tackle used to extend it to its full 27-foot length.

Trolley Busway For Louveralls

♦ THE DESIGN and installation of louverall type ceilings is greatly simplified through the use of plug-in or trolley busway. Such a system was used in the complete



Simplified design and installation of louverall type ceilings has been achieved through the use of plug-in or trolley busways, which the small black arrows point to. The busway, every inch of which is a potential outlet, serves the fluorescent lamps directly beneath it. About 18 inches beneath the lights is the false ceiling composed of "egg crate" gratings, which can easily be lifted out to get to the wiring above.

renovation of a large department store recently.

The accompanying photograph shows a portion of the louverall ceiling as it was being installed. Above it are the rows of fluorescent lamps and the small black arrows point to the trolley busway which serves the lamps.

About two miles of Trumbull LTG Flex-A-Power form the basis for this unique indirect lighting system. Row upon row of fluorescent lights are hung at right angles to long runs of LTG, and hanging about 18 inches below the lights is the false ceiling consisting of squares of aluminum grating through which the light shines from above. So effective is this lighting that no individual lights are needed for show cases, which, as a result, can be moved about freely without sacrificing the attractiveness or attention-arresting value of the displays. It produces an even light in every corner of the floor without shadows or glare.

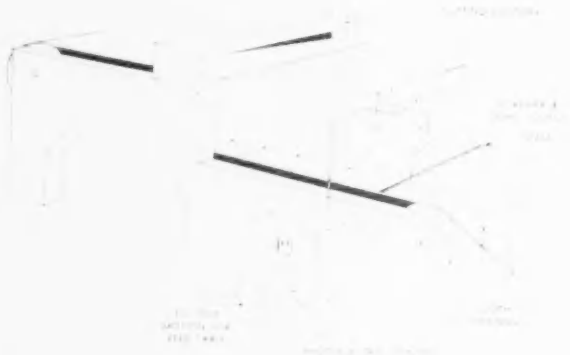
The gratings, sometimes called "egg crates" but technically known as flexible modules, can be lifted out to get at the wiring above, and they come in different colors, thereby permitting special, seasonal and promotional lighting. Thanks to the runs of trolley busway, every inch of which is a potential outlet, the lights can be pinpointed at any spot along the run, making it possible to concentrate or reduce the lights as desired.

This LTG system is three-phase, four-wire, with independent control over each circuit. After store hours, two circuits of lights may be turned out and one left on. Several thousand plugs are used and for greater safety, each one is fused.

Photo Controls For Industry

♦ TEXTILE MILLS generally offer many opportunities for the installation of photoelectric and electronic control devices. One such application is for automatic seam detection.

After textile sheeting has been processed, it is fed into cutting tables. On these tables, it is cut or torn in predetermined lengths.



This high-speed photoelectric control system practically eliminates textile sheeting waste. A scanner and light source automatically detects each seam and stops the flow of sheeting to the table. The operator can then tear around the seam and have sufficient material on either side of the seam so that the only scrap is the seam itself.

The material flows onto the tables at high speed and the workers measure off the lengths and tear the sheets in a practically continuous operation. Seams representing the attachment of one original sheeting to the next occur with frequency. These seams may appear in the middle of a sheet which has already been torn to size. In this case, the entire piece is lost. This represented a waste measurable in many thousands of dollars for a particular mill. Many attempts had been made to eliminate or minimize this waste.

This waste was practically eliminated by the use of a sensitive high-speed photoelectric control system. A photoelectric control continuously monitors the sheeting just before it enters the cutting tables. When it observes a seam, it immediately stops the flow of sheeting to the table. The operator then measures the distance between the last tear and the seam, thus determining that a larger or smaller standard sheet can be made. In other words, the operator is thus enabled to tear around the seam and have sufficient material on either side of the seam so that the only scrap is the seam itself.

In this particular instance the equipment installed was Photoelectric Control Type 23LF3, manufactured by Photoswitch, Inc.

Quick Connector For Hot Lines

◆ A new electrical connector—the "Snaptap"—cuts to a fraction the time needed for making branch connections. As the "Snaptap" also usually eliminates the need for panel boxes, savings in cost of branch connections are substantial.

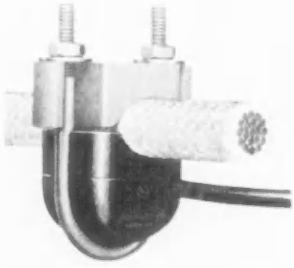
"Snaptap" is safe to use in connecting to hot lines. The connection is made without stripping the main line insulation or exposing the copper. "Snaptap" accommodates 350,000 to 800,000 circular mil cable—No. 14 to No. 6 branch wires.

As may be seen in the drawing, "Snaptap" is a simple device—easy to use. You just saddle it on the insulated cable, screw up the nuts on the U bolt and the connection is made automatically.

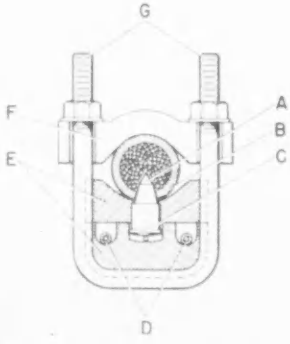
Referring to the letters on the cross-section photograph, the solid copper piercer pin (A), inside the "Snaptap," pierces the cable insulation at (B), making a very small hole. The end of the pin meshes with the strands of the cable, forming a reliable electrical connection which is completely enclosed and protected against oxidation.

The other end of the piercer pin has a rounded head (C) which presses against the stripped end of the branch wire, so you have the whole branch connection at once . . . no soldering. (D) shows the branch wire, coiled in the spiral groove which anchors against pull out. If the "Snaptap" is removed, only a small hole is left in the cable insulation which is easily covered by a few turns of tape.

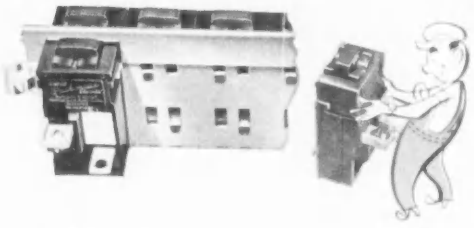
Referring to the photo, the split insulating block is of high strength, high dielectric plastic. The clamping yoke is cadmium plated malleable. The U bolt is bronze to avoid magnetic circuit—possible heating. The "Snaptap" is listed by the Underwriters. It is manufactured by Gentner Co., Detroit, Mich.



(Above) This new electrical connector, the "Snaptap," cuts to a fraction the time needed for making branch connections. The new connector is safe to use in connecting to hot lines, and is simple and easy to use. (Below) This cross section of the "Snaptap" shows how it is saddled on the insulated cable, nuts on the U bolt screwed up, and the connection made automatically.



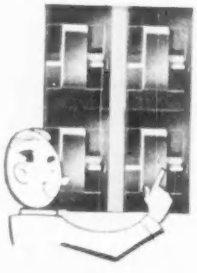
"Here's why I'm changing to *Pushmatic* Electri-Centers for every panelboard job"



"Most flexibility! Pushmatics are identical in size and control, regardless of rating or type. That means each unit can be quickly inserted, removed or interchanged without disturbing other units. And Pushmatics are available in "THERMAL-MAGNETIC" or "THERMAL-MAGNETIC with exclusive AMBIENT COMPENSATING-EATERS to meet every load condition! They are rated at 15, 20, 30, 40 and 50 amperes, 1 pole, 120 V., or 2 poles, 120-240 V., AC."

"Fastest delivery! We used to lose out on truly panelboard jobs. Couldn't get equipment in time. But never again! Our local Distributor-rep tells us to stocking a small, working supply of basic Electri-Centers and flexible, interchangeable Pushmatics. That way, we can give prompt delivery and installation. And our customers really appreciate fast service!"

"Surest protection! Approved by Underwriters' Laboratories, Pushmatics operate with quick-break, quick-make action. Overloaded circuits are instantly interrupted by thermal operation. Automatic tripping is entirely independent of manual operation. And for installations subject to unusual temperature variables, new Ambient Compensated Pushmatics assure 100% of their normal rating at any ambient temperature between 40°F and 150°F."



Push—it's ON!
Push—it's OFF!
Push—it's ON again!

"Simplest switching! Nothing to it! A push of the finger switches the current either ON or OFF. If Pushmatic is automatically tripped by short or overload, just reset and service is restored. No bothersome inserting of handles. No fuses to buy. Only Pushmatic offers unique push-button switching."

BULLDOG ELECTRIC PRODUCTS COMPANY
DETROIT 32, MICHIGAN • FIELD OFFICES IN ALL PRINCIPAL CITIES
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BULLDOG

PIONEERS IN FLEXIBLE ELECTRICAL DISTRIBUTION SYSTEMS

INDUSTRY NEWS

Raybro Opens Orlando Branch

◆ The opening of an Orlando branch, located at 639 W. Central Ave., in a new building recently completed for the company, has been announced by Raybro Electric Supplies, Inc., Tampa, Jacksonville, Miami, and St. Petersburg, Fla. The branch is now open for business.

The new Orlando branch will serve Raybro customers in the fast growing agricultural and industrial section of Central Florida. W. W. Faulkner, who has been in the sales department of the Tampa office for several years, has been appointed Orlando branch manager.

C. H. Murray, general service manager of Raybro, has moved his headquarters to Orlando, and he is assisted by Walter Maxwell handling customer order service. Frank Maglocca, who has traveled the Orlando territory for several years for Raybro, will handle house sales and assist Mr. Maxwell in customer service and relations.

W. J. Bryant, who traveled the southern territory out of the Tampa branch for a number of years, and Charlie O'Neill, who formerly covered the East Coast territory out of the Jacksonville branch, will handle territorial sales in the new Orlando branch operation.

Raybro held a formal open house in September, and all customers and manufacturers' representatives were invited to come in and inspect the new branch.

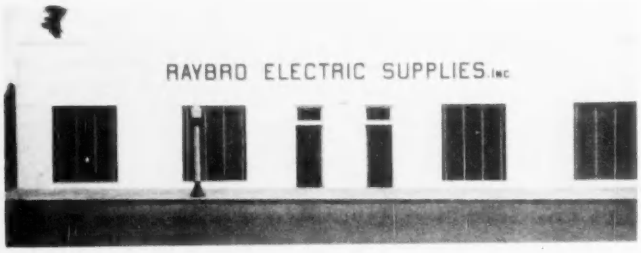
General Electric Revises Air Conditioning Sales

◆ A reorganization of its distribution sales responsibilities in the field has been announced by the Air Conditioning Department of the General Electric Company.

Under this revised plan, the country is divided into four regions, each of which is to be headed by a regional manager who will oversee all sales operations to franchised distributors. The regions and their headquarters are as follows: Eastern, New York City; Central, Chicago; Southern, New Orleans; and Western, San Francisco.

H. J. Wines, manager of distribution sales, will administer this new setup from the Air Conditioning Department headquarters in Bloomfield, N. J.

This arrangement will hold true for the automatic heating products line, water coolers, packaged air conditioning, and central plant air conditioning installations of less than 50 tons. All air conditioning installations over 50 tons will be treated as a direct sale and will be administered by J. D. Hoffman, manager of direct sales. Under this arrangement, the direct sales representatives of the Air Conditioning Department will report directly to headquarters at Bloomfield.



This new building, recently completed for Raybro Electric Supplies, Inc., now houses the Orlando branch of the company, located at 639 W. Central Ave., Orlando, Fla. The new branch will serve Raybro customers in the central Florida section. Other branches are located in Tampa, Jacksonville, Miami, and St. Petersburg.

New Reliance Unit Shown at Convention

◆ The first public demonstration of the new, low-cost Reliance VS drive at a southern trade show was a feature of the exhibit of The Reliance Electric & Engineering Company at the 16th Southern Textile Exposition, Greenville, S. C., October 2-7. This electric transmission is available in power ratings from 3/4 to 2 h.p. inclusive.

This new, low-cost Reliance VS drive was shown for the first time at a southern trade show in the 16th Southern Textile Exposition, Greenville, S. C. At right is the compact conversion and control unit, and at left the operator's control station.

The Reliance booth also included a multi-motor VS drive with VSC control similar to those which have been installed on slasher, slitters, winders, and other textile applications. Timed rates of acceleration and deceleration, together with ease and simplicity of control, are two main features of this all-electric adjustable-speed drive. The display also included typical Reli-

THE NEW
NATIONAL ELECTRIC

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LOOMWIRE

CANVAS-BACK

GIVES YOU

EASY STRIPPING

A paper dam under the sheath, surrounding the conductor assembly, improves stripping. This dam adheres to the sheath when stripped—doesn't let the saturant penetrate to the paper wrap, assures free stripping and clean conductors.

NO HOT-WEATHER TACKINESS

Pulls from the carton freely in temperatures as high as 125° F. —does not stick to your hands.

Maximum moisture resistance
Type R or Type T conductor insulation
Listed by Underwriters' Laboratories, Inc.
Sold through leading electrical wholesalers.

COOL
CLEAN
SLICK
FLEXIBLE

EVERYTHING IN WIRING POINTS TO

National Electric
PRODUCTS CORPORATION
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ance integral horsepower motors.

Among those included in the staff assigned to attend the Reliance booth were: E. E. Helm, sales vice-president; K. S. Lord, Philadelphia district manager; E. G. Orahood, Southeastern district manager; F. W. Leitner, Charlotte, N. C., representative; and W. H. Behnke, textile application engineer.

This view shows Second St., Decatur, Ala., after the installation of new G. E. Form 109 mercury-vapor luminaires equipped with 16,000-lumen lamps. Mounted 30 feet above the pavement on Union Metal Octaflute poles, the new fixtures provide an illumination level of 1.8 foot-candles, or more than 150 per cent of IES recommendations for main arteries.

Alabama Town Completes Relighting

◆ DECATUR, Ala., has just completed a street lighting modernization program which doubles the amount of light on its heavily traveled downtown streets.

The city recently installed in its downtown business section 119 modern mercury-vapor luminaires which burn 16,000-lumen lamps in a horizontal position. The new fixtures, supplied by the General Electric Company, provide an illumination level of 1.8 foot-candles, or more than 150 per cent of IES recommendations for main arteries.

Mounted 30 feet above the pavement on Union Metal Octaflute poles, the new G-E Form 109 luminaires replaced obsolete upright fixtures which "wasted" about 40 per cent of their light output. The new luminaires provide twice as much light on the pavement as the old ones.

The decision to modernize the street lighting system was made by City Council after the Decatur Electric Department granted the city a reduction in street lighting rates. Council members determined that savings made possible by the rate reduction would cover the cost of a new "white way" system without increasing the city's street lighting budget.

ADEQUATE WIRING BUREAU NO. 50 — Marshall, Texas, became the site of the 50th Adequate Wiring Bureau recently when a local license was presented to the Marshall Electric Club. Members at the presentation were: first row, left to right, Irvin Elkins, Southwestern Gas & Electric Co.; E. E. Graham, SG&E; G. H. Rudd, electrical contractor; Joe Woods, electrical contractor; Dick Fredrick, appliance dealer and president of the Bureau; and George Ross, manager, Panola-Harrison REA. Second row, kneeling, are Winston Clark, appliance dealer, and Dan Mack, SG&E. Third row, Jim Oliphant, appliance dealer; Tate York, appliance dealer; Robert Barber, home designer; Maynor Jones, appliance dealer; John Reed, SG&E; Al Fezer, electrician; and P. M. Laughlin, NECA district representative. Fourth row, Harold Foster, appliance and furniture dealer; Fred Sudduth, electrical contractor and appliance dealer; Frank Weidman, appliance dealer; Ralph Grimes, electrical contractor, Longview; Richard Wood, SG&E; Angus McKay, appliance dealer, and Hassell Gray, SG&E.

RACCA Adds Two New Locals

◆ AT THEIR quarterly meeting held in Chicago recently, the board of directors of the Refrigeration and Air Conditioning Contractors Association formally approved application for two new local associations.

A group has been organized at Tampa, Fla., to be known as the West Coast Air Conditioning and Refrigeration Contractors Association, under the guidance of the following initial officers: W. B. Haggerty, president; Arthur Turner, Sr., vice-president; and Charles Caccamo, secretary-treasurer.

The second group, at Jackson, Miss., is known as the Refrigeration and Air Conditioning Contractors Association of Mississippi, Inc. Officers for this local are: W. T. Tyson, Jr., president; L. B. Brummett, vice-president; E. C. Allendge, Jr., secretary-treasurer; and W. C. Pratt, sergeant-at-arms.

The fifth annual convention of the association, to be held at Long Beach, Calif., simultaneously with the 1950 West Coast Educational Exhibits and Conference, will be a two-day affair, with educational panel talks on the morning of the first day (Wednesday), followed by a luncheon to which all

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● For electrical and general purpose jobs, Security Tape will never let you down. Its adhesive compound is not just sticky, but strong and rubbery. To handle tougher jobs, the fabric is unusually high in tensile strength. Security has no pinholes to cause leaks. Straight-tearing, non-crawling.

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people interested in the industry will be invited. The annual meeting of members and election of directors will take place Wednesday afternoon.

The second day (Thursday) will be set aside for membership and board meetings. Speakers at the open session and the luncheon will be announced shortly. Headquarters are to be at the Hotel Lafayette in Long Beach, with Neal S. Templin of Los Angeles acting as program chairman in charge of all arrangements.

Texas Agency Reorganized

◆ The A & A Supply Co., southwestern manufacturers' representatives who maintain offices in Abilene, Texas, and Albuquerque, N. Mex., was reorganized recently, reports W. O. Ansley. This firm was formerly known as Hoffman Engineering. L. O. Hoffman is no longer associated with the organization.

The company serves a number of electrical manufacturers in Texas, New Mexico, and Arizona. Products represented include automatic electric controls, electrical meters and instruments, pole line hardware, line construction truck bodies and trucks, meter boxes and enclosures, motors and generators, motor controls and starters, and a wide range of other industrial electrical equipment.

New Product Added By National Supply

◆ The Spang-Chalfant Division of The National Supply Company has added to their products for the electrical industry with the introduction of their own electrical metallic tubing.

A new electric resistance weld tube mill has been installed at their Etna, Pa., plant. The tubing will complete their product line of steel electrical raceways.

To be known as "Central" Electrical Metallic Tubing, the new product has an electro-galvanized exterior finish. The interior is finished with an elastic enamel coating. It is being manufactured in sizes from ½ to 2 inches and in standard 10-foot lengths. It is adaptable to a wide range of electrical raceway services.

The tubing meets the requirements of the National Electrical Code and is listed by Underwriters' Laboratories, Inc.

•

◆ The newly compiled "Abridged Listing" being issued by the Crouse-Hinds Company, Syracuse, N. Y., features over 85 per cent of the complete C-H line of Condulets, plugs and receptacles, industrial lighting fixtures, industrial controls, panel-boards, and signaling devices for hazardous and non-hazardous locations.

The selection was made to give purchasers a convenient-size catalog that would include the most active items required by the electrical trade, as determined by a continuing Crouse-Hinds order analysis. The resulting "Abridged Listing" is an 8½-inch x 10½-inch, 168-page book.

A section in the back of the book is devoted to ordering suggestions, special metals, special finishes, cord and cable sizes, general wiring, and motor circuit information.

Distribution of the book, designated as Catalog 3100, is being made to established trade lists.

DATES AHEAD

Third Annual National Television & Electrical Living Show, Chicago Coliseum, Chicago, Ill., September 29 - October 8, 1950.

*American Institute of Electrical Engineers, Middle Eastern District Meeting, Lord Baltimore Hotel, Baltimore, Md., October 3-5, 1950.

Fifteenth Annual Conference, International Association of Electrical Leagues, Copley Plaza Hotel, Boston, Mass., October 11-14, 1950.

Twenty-second Annual Meeting, Southern Section, International Association of Electrical Inspectors, Sheraton Plaza Hotel, Daytona Beach, Fla., October 16-18, 1950.

*National Electrical Contractors Association, Annual Convention, Hotel Biltmore, Los Angeles, Calif., October 17-20, 1950.

*National Farm Electrification Conference, Melbourne Hotel, St. Louis, Mo., October 18-20, 1950.

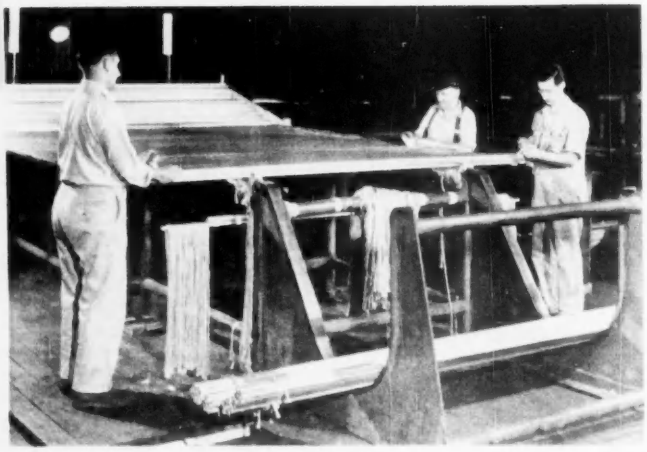
*American Institute of Electrical Engineers, Fall General Meeting, Skirvin Hotel, Oklahoma City, Okla., October 23-27, 1950.

*Southeastern Electric Exchange, Sales Conference, Biltmore Hotel, Atlanta, Ga., October 25-27, 1950.

National Electrical Manufacturers Association, Chalfonte-Haddon Hall, Atlantic City, N. J., November 13-17, 1950.

*Refrigeration and Air Conditioning Contractors Association, Fifth Annual Convention, Hotel Lafayette, Long Beach, Calif., November 15-16, 1950.

*Asterisk indicates meetings announced for the first time in this column.



A new product being manufactured at the Etna, Pa., plant of the Spang-Chalfant Division, The National Supply Company, is "Central" Electrical Metallic Tubing. Here, standard 10-foot lengths are being bundled prior to shipment.

NAMES IN THE NEWS

E. R. Boruch, Southern Division manager of **BullDog Electric Products Co.**, has announced that **Bert F. Wardell** has been transferred to Nashville, Tenn., from Birmingham, Ala. Mr. Wardell will take over the duties of field engineer in the Nashville territory, which includes most of Tennessee and Arkansas.

Mr. Boruch also announced that **Ralph S. Winn** has been transferred to Birmingham as junior field engineer. Mr. Winn will report to Mr. Wardell, but will continue to supervise his former territory—Alabama and the two western counties in Florida.

•

The appointment of **W. C. Bushin** as the Carolinas' district sales promotion manager for the **Westinghouse Electric Supply Company**, Charlotte, N. C., has been announced by **S. R. Clark**, district manager.

W. C. Bushin

In this capacity, Mr. Bushin will direct promotion of home appliances and electric apparatus and supplies throughout North and South Carolina. The supply company wholesales such products for the Westinghouse Electric Corporation and many other manufacturers.

A native of Spartanburg, S. C., Mr. Bushin was district lamp supervisor before this new appointment.

•

C. W. "Slim" Warner has been named vice-president in charge of operations and a director of the **Georgia Power and Light Company** at a recent meeting of the board of directors. Mr. Warner, former general superintendent, has been with the company for 19 years.

An electrical engineering graduate of Alabama Polytechnic Institute at Auburn, he joined General Electric and served seven years at their test course in Schenectady and as a field engineer in Atlanta. In 1931, he joined the com-

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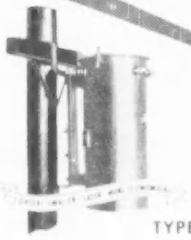
exclusively!

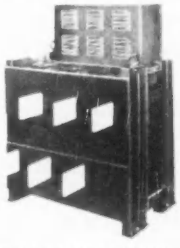


TYPE ACO

All purpose, indoor or outdoor, dry type distribution transformers. Sizes to 100 KVA, voltages to 5000 V.

TYPE C

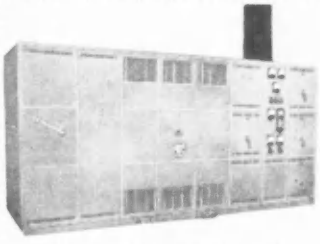
General purpose transformers, 600 volts and below; 1-15 KVA inclusive, single or three phase, completely self contained.



FURNACE TRANSFORMER

3 PHASE, 3-2 PHASE, 1 PHASE

Uses—Forging, heat treating, melting, resistance heating, welding, etc.



TYPE F - UNIT SUBSTATION

1000 KVA, 4160Y 60 Cycles, 3 —480 delta; Fused load interrupter on H.V. (left). Drawout type breakers and metering equipment on L.V.

ONE OF THE WORLD'S LARGEST MANUFACTURERS OF DRY TYPE TRANSFORMERS EXCLUSIVELY

1 to 2,000 KVA up to 15,000 Volts to meet Individual Requirements

- DISTRIBUTION
- GENERAL PURPOSE
- UNIT SUBSTATION
- PHASE CHANGING
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- RECTIFIER
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MTC produces a complete line of quality transformers to 2000 KVA. A newly expanded plant with the most modern equipment, plus a background of years of dry type specialization, assures maximum transformer value.

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PIONEERS IN THE FIELD OF AIR-COOLED TRANSFORMERS

pany in St. Petersburg and served in various engineering jobs until 1937 when he was promoted to district engineer in Valdosta.

Mr. Warner was promoted to general superintendent of the Georgia system in 1940 and his recent promotion to vice-president became effective August 1. A registered professional engineer of the State of Georgia, he is also a member of the American Institute of Electrical Engineers.

•

The board of directors of the **Westinghouse Electric Supply Company** has elected **John F. Myers** as president to succeed **David M. Salsbury**. The change was effective recently.

John F. Myers

Mr. Salsbury asked several months ago to be relieved of his position so that he could return to the West Coast for the sake of the health of his family. Effective July 1, he became vice-president in charge of Texas and Pacific Coast operations of the Supply Company, headquarters in San Francisco.

A native of Washington, D. C., Mr. Myers was graduated from the National University Law School in 1936 and began his career as office manager of H. C. Foley Company, capital city electrical contractors and wholesalers. When the Westinghouse Electric Supply Company was organized, Mr. Myers was named branch manager in Washington and on Jan. 1, 1945 he was appointed manager of the Middle Atlantic district of the supply company. Earlier this year he was named manager of the Westinghouse Electric Corporation's new consumer product factory branches when these branches were organized in the Middle Atlantic district.

•

A. A. Togesen, vice-president in charge of sales, **BullDog Electric Products Company**, Detroit, has announced the appointment of **Leo H. Lipscomb** as sales manager.

Prior to joining BullDog Electric, Mr. Lipscomb spent eight years in the service department of the Kansas City Power and Light Company.

In 1937, Mr. Lipscomb joined the BullDog sales organization as field engineer. He rose in a few short years to Chicago District manager, Midwest Division Manager and now sales manager.

•

William S. Ginn has been appointed manager of sales of the **General Electric Company's** Transformer and Allied Product Divisions, with headquarters in Pittsfield, Mass., **Robert Paxton**, division manager, has announced.

Mr. Ginn, assistant sales manager of the Transformer and Allied Product Divisions since September 1, 1949, succeeds **Francis E. Fairman, Jr.**, who recently was appointed general sales manager of the company's Large Apparatus Divisions.

A native of Atlanta, Ga., Mr. Ginn graduated from Georgia Tech in 1936 with a B.S. degree in electrical engineering. He joined General Electric on the Test Course the same year, and subsequently was assigned to the Central Station Engineering Divisions in Schenectady and to the Power Transformer Engineering and the Transformer Sales Divisions in Pittsfield.

William S. Ginn

Following his wartime service, he returned to the G-E Pittsfield Works and in 1947 was appointed assistant manager and then manager of the Power Transformer Sales Division. In September, 1949, he was appointed assistant business manager of sales of the Transformer and Allied Product Divisions, a post he held until his recent appointment.

•

Dr. Robert J. Wiseman has been appointed vice-president and chief engineer of **The Okonite Company**, Passaic, N. J. Dr. Wiseman, previously chief engineer, joined the company in 1937 as research engineer. A graduate of the Class of 1932 of the Massachusetts Institute of Technology, Dr. Wiseman remained there until 1937 as a member of the teaching staff, in 1935 receiving M.I.T.'s degree of Doctor of Science. He subsequently served as an engineer with the Western Union Telegraph Company and the National Conduit & Cable Company.

Dr. Wiseman has always been active in national and international technical societies. He is a Fellow of the American Institute of Electrical Engineers, having served as chairman of their Committee on Power Transmission and Distribution, as a member of their Committee on Research, and their Board of Examiners. He is a past-president of the Insulated Power Cable Engineers Association.

Dr. Wiseman is the author of many articles published in the electrical trade press and is widely known throughout the electrical industry as an authority on cable design and insulations. Born in Cambridge, Mass., in 1890, Dr. Wiseman presently resides in Passaic, N. J.

•

S. M. Sharp, chief engineer, **Southwestern Gas and Electric Company**, Shreveport, La., has been named vice-president of the company. He will remain in the capacity of chief engineer. Mr. Sharp is a graduate of the University of Arkansas and has been employed by the Southwestern Gas and Electric Company since 1932. He received the appointment of chief engineer in 1941.

•

Announcement of the appointment of **Blaine F. Fairless** as sales manager has been made by **Steel City Electric Company**. Mr. Fairless joined Steel City in April, 1949, and spent several months in the plant acquainting himself with the production end of the business.

Blaine F. Fairless

He then transferred to the general office, and after a few months became assistant to **Hal West**, then sales manager of the company. When Mr. West left the Pittsburgh office to represent Steel City in Western Pennsylvania, Mr. Fairless succeeded him.

•

Earl Mellen, president of the **Weston Electrical Instrument Corporation**, Newark, N. J., has announced the appointment of **Philip Barnes** as general sales manager.

Mr. Barnes has been associated with the Weston organization for 16 years. During World War II he served as a lieutenant in the U. S. Navy, and fol-

lowing his return from active duty he was appointed advertising manager. A resident of Union, N. J., he is chairman of the finance committee of the Union Board of Education, and is a member of the Advertising Clubs of New Jersey.

•

S. E. McCrum has been appointed sales promotion manager of the **Feedrail Corporation**, manufacturer of electrical power distribution systems subsidiary of **Russell & Stoll Company, Inc.**

S. E. McCrum

Mr. McCrum was previously advertising manager of the Wickwire Spencer Steel Division of The Colorado Fuel and Iron Corporation.

•

A. W. Hirshman, sales manager, Electrical Division, **Compco Corporation**, has announced the appointment of **W. H. "Tip" Lassiter**, 2305 Lafayette Ave., Richmond, Va., and **Frank C. McPherson**, 6417 7th Ave., No., St. Petersburg, Fla., as sales representatives to handle Compco electrical line in their respective territories. Mr. Lassiter will cover Virginia and North Carolina and Mr. McPherson will cover the state of Florida.

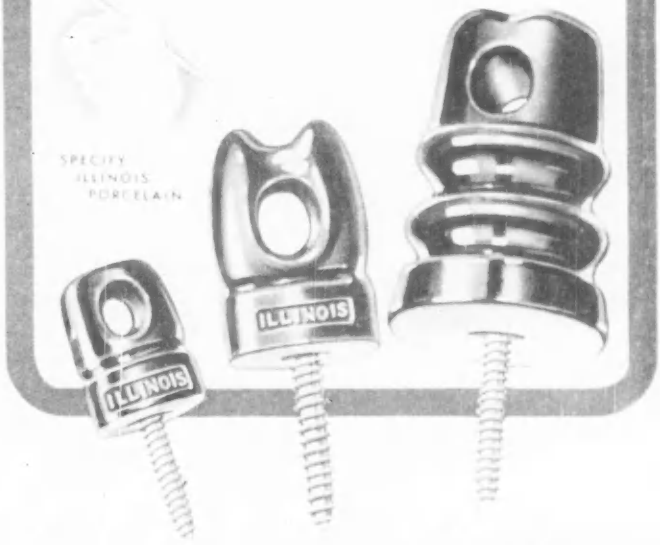
•

Robert Paxton of Pittsfield, Mass., has been appointed manager of manufacturing policy for the **General Electric Company**, it was announced recently by **Charles E. Wilson**, company president. Mr. Paxton succeeds to the responsibilities of **Raymond R. Rausch**, vice-president, who has resigned to return to the automotive industry.

Mr. Paxton has been manager of the transformer and allied product divisions of the G-E Apparatus Department. His headquarters have been at Pittsfield, Mass., and he will now have offices in New York and Schenectady. The new appointment is one of six.

Mr. Paxton assumes his new position after long experience in the manufacturing end of General Electric's apparatus business, having been responsible for long periods for both the pro-

PORCELAIN WIREHOLDER INSULATORS



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Illinois dry process wireholder insulators are uniformly made to meet exact specifications in sufficient styles and sizes for all requirements. Smooth, rounded surfaces protect wire insulation—deep, sharp screw threads assure easy and firm installation. Non-shrinking metal alloy binds screws permanently to insulators. Steel screws are evenly coated by special galvanizing process to prevent rust streaks on sides of buildings. Wet process porcelain supplied for primary circuits.

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- *HIGH DIELECTRIC STRENGTH*
- *EXACT DIMENSIONS AND UNIFORMITY*

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ELECTRIC PORCELAIN CO.

MACOMB, ILLINOIS

duction of large equipment and the repetitive manufacture of small units. As manager of the transformer and allied product divisions, he has been in charge of one of the company's largest divisions with plants at Pittsfield and Holyoke, Mass.; Fort Edward, N. Y., and Oakland, Calif. He has been responsible for all phases of the divisions' operations.

Immediately upon graduation from Rensselaer Polytechnic Institute in 1923, Mr. Paxton became associated with General Electric. After a year on the company's Test Course for student engineers, he was assigned to the switchboard department in Schenectady, and in 1927 was transferred to the Philadelphia Works, where two years later he became manufacturing manager of the metal-enclosed division. Following several promotions he became assistant to the works manager at Philadelphia in 1940, and a year later was named manager.

In 1945, he was named manager of the Pittsfield Apparatus Works, and in 1948 was appointed manager of the transformer and allied product divisions, the position he has held until the appointment just announced.

•

Albert E. Hills was elected executive vice-president of **Crouse-Hinds Company** at the recent meeting of the board of directors held at Syracuse, N. Y. Mr. Hills joined Crouse-Hinds as purchasing agent in 1901, and later headed the sales and commercial affairs of the company. He first became an officer of the company in 1924 when he was elected secretary, and since 1941 has served as vice-president.

Albert E. Hills

At the same time, **F. Ware Clary** was elected vice-president in charge of publicity and public relations, to which his activities have been devoted since joining the company in 1908.

Carl H. Bissell was elevated from chief engineer to the vice-presidency in charge of engineering, with which department he has been identified since 1902. Under his direction many new products were developed which are now nationally known.

NEW PRODUCT NEWS

Outlet Box Protector

Inexpensive enough to be disposable, an effective protection for outlet boxes during plastering and painting has just been announced by the Gedney Electric Company, RKO Bldg., New York 20, N. Y.

This protector is known as the Gedney Red Cap. It prevents plaster, paint, or dirt from getting into and clogging up electrical outlet boxes between roughing-in and finish. Made of red varnished cardboard, in sizes and styles to fit all standard boxes, the protector is available through distributors of Gedney fittings. Descriptive folder, sample, and prices will be mailed upon request.

•

Steber Floodlight Bulletin

A new, colorful floodlight catalog bulletin has just been issued by the Steber Manufacturing Company, Broadview, Ill.

This bulletin contains a complete listing of open and enclosed floodlights in a wide range of sizes from 100 to 1500 watts, designed for home, commercial, industrial, and sports applications. Colored lenses, for dramatic lighting effects, are available for several models.

A copy of this Bulletin (No. 128-50) can be obtained by writing the manufacturer.

•

Pintype Insulator

A new pintype insulator (No. 26) designed to be used in raising insulation levels on present or proposed low voltage lines, has been announced by Victor Insulators, Inc., 70 Maple St., Victor, N. Y. It has a rated 60-cycle dry flashover of 95 kv, and a wet flashover of 60 kv.

This new No. 26 insulator needs little maintenance in fog and contaminated regions, the manufacturer reports, because of its self-cleaning design and long leakage distance (15 inches). The insulator has a nominal voltage rating of 27 kv. It can be supplied plain or radio-freed.

Further information is contained in the company's Bulletin No. 4, available on request from the manufacturer.

•

Distribution Transformers

New CSP distribution transformers with cylindrical tanks, wall-mounted primary bushings, and externally mounted lightning arresters are available from Westinghouse Electric Corporation in ratings below 5,000 volts.

The new transformers save space on the pole, make installation and operation easier, and simplify stores problems. The new design meets EEI-NEMA standards.

The transformers are cylindrical with no overhanging hood. Space required on the pole is decreased so that more climbing space is available. The breaker operating handle is mounted between one of the primary bushings and the pole bracket so that the operating handle is accessible without reaching around a primary bushing or arrester. The completely round tank and cover insure more effective gasketing and sealing of the transformer.

Improved-type lightning arresters are mounted on the outside of the tank. A series air gap isolates the arrester from the line both electrically and mechanically. Rugged, high-voltage bushings are mounted directly in the tank walls in such a manner that they are less susceptible to breakage than previous designs.

For further information write Westinghouse Electric Corporation, P. O. Box 2099, Pittsburgh 30, Pa.

•

Fluorescent System

A new, compact, extra-shallow fluorescent lighting system for slimline and 40-watt bipin lamps, called "Strip-Line," and available in seven different types, has been announced by Benjamin Electric Mfg. Co., Des Plaines, Ill.

The unusually shallow channel-depth of less than one inch (15/16-inch) makes it possible to use this system in extremely limited space, such as is often the case with "Sky-Glo" louvered ceiling installations, cornice lighting, illumination of glass blocks, charts, murals and shadow boxes, show window lighting, etc.

The new channels are available in seven different types, which include sections for 96-inch, 72-inch, and 48-inch T-12, and the 96-inch or 72-inch T-8 slimline lamps, as well as for one and two single 40-watt general service bipin lamps. Channels may be mounted in vertical or horizontal position, and are available with symmetrical or asymmetrical reflectors.

Complete specifications, mounting information, list of contacting parts, and dimensional data for five different "Strip-Line" sections are covered in the "Strip-Line" Bulletin just published by Benjamin.

•

Sports Floodlight

A new 18½-inch reflector "Alzak" Aluminum floodlight has just been announced by the Stober Manufacturing Co., Broadview, Ill.

Known as "Series 4000," this new unit is available in open or enclosed type in narrow or medium beam. Narrow beam type has polished Alzak reflector, medium beam, diffuse or Matte Alzak.

Mounting fittings include crossarm, wall, clamp, and pole types. Sturdy yoke type bracket to which mounting fittings are easily attached permits the entire unit to be swung over to cross arm or platform for easy cleaning or relamping. Open types may be converted to enclosed type even after installation.

An exclusive feature permits stocking of open types with lens and fittings separately to provide local stocks to take care of any urgent installation from a low cost inventory.

Complete illustrated folder (No. 127-30) with typical layouts for all types of sports areas is available upon request to the manufacturer.

•

Burndy Hysplice Bulletin

A new, 16-page instruction bulletin (No. HS 51-31—"How to Install Burndy Hysplices" — is available without charge from Burndy Engineering Co., Inc., 107 Bruckner Blvd., New York 54, N. Y.

Prepared specifically for line foremen and their installation crews, the booklet outlines the correct step-by-step procedure which will assure proper installation of sleeves and prevent damage to tools and dies.

The brief, explicit text, fully illustrated with simple drawings and charts, covers such subjects as selection of Hysplices, tools and dies, pre-

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THE COMPLETE 8 FT. FIXTURE CAN BE QUICKLY AND EASILY INSTALLED BY ONE MAN

Compco CORPORATION

paration of conductors for splicing, proper indenting methods, and installation of repair sleeves. Also included are an inspection checklist, explanation of the company's tool index number system, and practical suggestions for overcoming certain everyday problems observed in a recent survey of the field.

This complete new meter-size bulletin will replace previous instruction sheets in all future shipments of Burndy Hypress Y34A and Y48B.

•

Portable Lighting Unit

A HANDY new portable lighting unit designed as an all-purpose general utility light has just been developed by Stone Manufacturing Company, Elizabeth 4, N. J.

The new unit has been announced as weatherproof, UL-listed, and completely self-contained for all applications of floodlighting, spotlighting, sign lighting, and protective building and yard lighting, as well as rural and suburban home lighting of outdoor terraces, lawn sports, driveways, and garages, indoors or outdoors.

The unit is made of non-corrosive, non-rusting cast aluminum throughout and consists of a cast aluminum lampholder with three mounting accessories providing interchangeable mounting positions on posts, walls, benches, floors, sides of buildings, to the ground or to junction boxes.

•

Improved Splice Caps

The Buchanan Splice Caps for "pigtail" splicing of electrical wires are now available from Buchanan Electrical Products Corp., 1290 Central Ave., Hillside, N. J., in an improved open-end construction which considerably facilitates their installation and inspection.

These new open-end splice caps insure that wire insulation is always flush with the splice cap for maximum circuit protection and that wires are always inserted to the full depth of the splice cap for maximum joint efficiency.

Only two sizes of splice caps are required for all most frequently used combinations of two or more wires ranging all the way from two number 18 to three number 8. Quickly applied snap-on insulators of fixed insulating value eliminate necessity for taping of joints and insure against insulation breakdown in service.

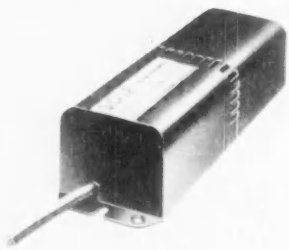
The metal operated "pres-SURE-tool" which installs both sizes of splice caps also installs manufacturer's Termend lugs on all wire sizes from number 10 to number 8. This tool features an exclusive buttress type "pres-SURE-crimping" action which insures permanent connections of maximum electrical and mechanical efficiency and is equally effective on solid or stranded or on combinations of solid and stranded wires. Weighing just one pound this tool is only 8 inches in over-all length and is provided with easy-grip handles protected with vinyl tubing.

All splice caps and Termend lugs are listed by both Underwriters' Laboratories, Inc. and Canadian Standards Association.

•

Sola Ballasts

BALLASTS for 500 M.A. lamps started in sequence and operated in series are now available from Sola Electric Co., 4632 W. 16th St., Chicago 50, Ill.



Two such new ballasts have been announced in Sola's "Superstart" line. Ballast Catalog Number 608-508 operates two 96-T8 lamps and Ballast Catalog Number 608-508 operates two 64-T8 or two 72-T8 lamps. The new ballasts are claimed to be significantly lighter, smaller, cooler operating, and have lower voltage loss.

In addition the ballasts incorporate many other exclusive features. The patented Sola Constant Voltage transformer is wide use for electronic and other transformer applications has been adapted to these ballasts to provide a constant wattage characteristic. These ballasts will maintain a constant light output regardless of primary voltage fluctuation from a level of 95 volts to 130 volts. This stabilization of light output greatly increases user satisfaction, particularly on installations subject to large primary voltage variations.

Another important feature of the Sola ballast is the ventilated conductor compartment. Ballast life is greatly prolonged because the conductor compartment is 42 per cent cooler than normal, and maintenance is improved because of the definitely lower incidence of condenser and coil failure.

Bulletins on the new ballasts are available from Department P32, Sola Electric Co., 4632 West 16th St., Chicago 50, Ill.

•

Ground Clamps

Traffic to steel, the isolation-type building beam, two new ground clamps have just been announced by the Thomas & Betts Co., Elizabeth 1, N. J.

They are listed by Underwriters' Laboratories for use on copper, aluminum, or steel, to handle the most popular sizes in boths. Constructed of bronze castings, heavy, they special design prevents them from crushing copper wire. They are also approved for grounding to 2-inch copper water or iron water pipe and 1-inch to 3-inch ground rod and pipe.

Catalog Number 3941 is for attaching grounding wire, number 4, number 6, and number 8. A set screw holds the wire, while the clamp itself bites in, anchors the ground wire.

Illustrated is Catalog Number 3846 for number 4 and number 6 wire grounding wire. It installs with just one screw. There are no loose parts to lose or misplace. For the most important connection in a residential wiring system, it is quick to install. The manufacturers say you can put it on left-handed in the dark if necessary.

•

Outlet Combinations

Two new triple outlet and fuse combinations have been added to Leviton's Electrical Counter-Control wiring system, according to an announcement re-

the company's Construction Materials Department, Bridgeport 2, Conn.

These outlet combinations are of molded, one-piece ivory plastic construction and take much less box space than most convenience outlets. Consequently there is more room for wires. Designed to match the switch plates provided in the remote-control line, these outlets are equally suitable for conventional wiring installations.

Catalog Number RO-1 outlet has common feed and common ground and Catalog Number RO-2 has separate feed and common ground. Separate feed for the RO-2 permits control of one or two outlets by switches while the remaining outlet or outlets remain live.

Both combination outlets are listed by the Underwriters' Laboratories, Inc., and are rated for 15 amp, 125 volts, and for 10 amp, 250 volts.

•

Transformer Overload Indicator

A BUZZER TYPE transformer overload indicator that can be used on all types and sizes of distribution transformers has been developed by Line Material Company, Milwaukee 1, Wisc.

This buzzer indicator, called "Load-Alarm," utilizes the audio principle, which provides a constant check by the customer. The indicator is installed inside the transformer and operates when a replaceable eutectic alloy bobbin element with a predetermined melting point of 60 degrees, 75 degrees, or 90 degrees C. pins of mono-Valeryene C. stocks. The melting of the alloy allows contacts to close an electrical circuit which in turn provides the buzzer.

The indicator is connected electrically to the secondary side of the transformer. Since it is attached directly to the transformer tank by a metal

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ELECTRIC MFG. CO.

Designed for use with 2500 to 10,000 Lumen Incandescent Lamps

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FOR: BOULEVARDS
BUSINESS SECTIONS
RESIDENTIAL DISTRICTS

OCTAGONAL one-piece STANDARDS
- Single or double arm
- With 4, 6, 8, 10, 12 or 14 foot Mast Arms
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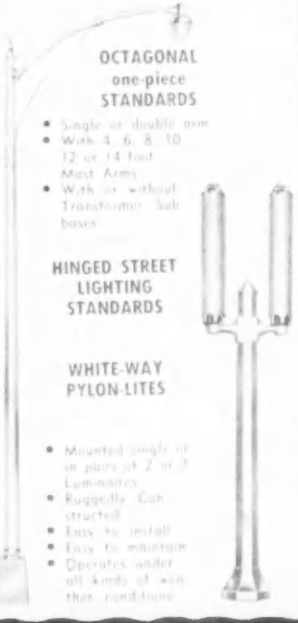

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LIGHTING EQUIPMENTS FOR EVERY NEED

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Save!

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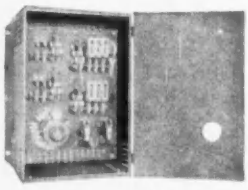
High Frequency, High Voltage Transfer Switches



Manual Speed Regulators and Field Rheostats

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mounting strap, the sound of the buzzer is greatly amplified because the transformer tank acts as a sounding board. The secondary conductor serves as a medium through which this sound is transmitted through the buildings that are served by the transformer. The noise is unusual and gives the utility customer a reason to call the operating company.

The new indicator contains a small fuse which can be removed through the handhole cover on the transformer to stop the buzzing until such time as the transformer can be replaced. After the indicator has operated the thermal element can be replaced and the unit is then ready for re-installation.

•

Motor Mount Assembly

The Viking Air Conditioning Corporation, 5690 Walworth Ave., Cleveland, Ohio, has announced its newest motor mount assembly for its 413 Blower Package.

The motor mount assembly is fastened to the blower with wing nuts so that it is now possible for the installer to completely attach the blower to the furnace before setting the motor and doing wiring.

The use of a separate motor mount assembly has several important advantages. The installer is able to mount the motor outside the cabinet where he has unlimited freedom of movement. He does all intricate wiring necessary at the same time, again unrestricted.

In addition, the motor mount assembly provides for installation speed. The motor mount is provided with adjustable slots so that alignment of the belt and adjustment of the tension of the belt are easily done without tools. For future adjustment, should the drive belt stretch, the slots can be quickly adjusted to take up the slack.

•

Home Wiring

(Continued from page 23)

of residential wiring for Terrell.

"Yes," he adds, "we find that residential wiring is now very profitable, and we intend to stay in the field."

In the relatively short time since the company invaded the residential field in force, it has found many ways to make this work more efficient and profitable. A special crew that does nothing but house wiring enables the company to install wiring systems with a minimum of delay, fewer mistakes, and at lower cost. Also, trucks are so loaded that the electrician on the job has every item he will possibly need for a day's work, thus cutting down on trips back to the shop.

Temporary meter centers are installed on all jobs, making it possible to use power tools such as electric drills, saws and hammers. These power tools speed the work to save manhours of labor on every job.

McClure employs another practice that pays dividends in trips saved and good will earned. As soon as all appliances have been installed in a house wired by his company, McClure goes back to the house to check for possible dead circuits or faulty connections. This practice eliminates the possibility of separate trouble calls later which might have been corrected at one time.

The Terrell residential wiring department is the most recent of the company's thoroughly departmentized organization. Appliance sales, motor repair, electrical distribution, and underground are the other divisions. Each department has its own supervisor, responsible directly to Terrell.

Terrell is a member of the Chattanooga chapter of the National Electrical Contractors Association, the Electrical League of Chattanooga, and the National Association of Home Builders.

Let's Talk Business

(Continued from page 23)

your accepting the fifty dollar deduction.

But you had no choice, did you? If you have been in court over such deals, you have learned to avoid them. For when the defendant's lawyer starts to cross-examine, you decided it would have been better to have forgotten the entire transaction. This I know from personal experience.

But all this is unnecessary. It can be prevented. Before you can match wits with anyone, you must know as much, at least, as the other party. If the other person is better equipped with information than you, don't blame him. He spent time and effort to acquire the knowledge in order to protect his own interests, not yours.

Every electrical contractor should have some knowledge concerning legal matters that he may know and understand his

ess business to protect himself. There are a number of books on this subject. I have read many of them. But only two have I found worth studying and they are: *Common Legal Practice*, by Marshall. This comes in two volumes published by Funk and Wagnalls.

By studying the book, you will, and effortlessly, pick up legal terminology and legal phrasing. When you write up a contract hereafter, it will have content and meaning. With such a contract, you can hold your own. Because if a lawsuit is threatened and the customer consults an attorney, the customer will be advised to settle.

At the close of every contract, I have one clause that has saved me not only lawsuits but thousands of dollars. I quote it for its simplicity: "No other work is included in this contract."

Misunderstandings often arise when, after a job is underway a suggestion is made that an extra outlet would be handy and one or more switches would be an improvement. The customer agrees while heartedly. Often this is taken for an authorization to proceed. But when you come to collect for this extra work, the customer frowns, shakes his head, and refuses to pay for it. He claims he admitted it would be convenient to add those extra outlets and switches, but had no idea they were going to be installed. You argue, he argues. The customer wins his point. You have nothing to show he ordered the installation unless you have his signed written order. We use the couple from illustrated.

There is another factor worth mentioning, I think. It is a customary practice to send the customer a cold statement. Present at time, the amount appears staggering. Remember the greatest part of a contractor's work is hidden. All the average customer can see is what is visible, the fixtures.

When we send out a statement we begin: "For the amount of this statement, you received ..." then we go on and elaborate on what the customer received. This only requires a few minutes extra, and the reaction is well worth the added time. The customer feels more pleased and happy over this little gesture than you can appreciate until you have tried it.

Perhaps you will gather from the above that I am a fellow who is tough to get along with, that I am arrogant, and without mercy; in plain words, a tough guy to deal with. On the contrary, I am rather easy going. That's why I take every precaution to avoid trouble before it starts. I have better than 300 names on my mailing list who have been with me over five years, and I do all their work exclusively. Because I am thorough in every detail they feel they can place confidence in me and my work. When I protect myself I also protect the customer. For if I don't live up to my end of the contract, the contract isn't worth the paper it is written on. And when I fulfill my end of the contract, the customer has no choice but to fulfill his.

There is but one reason why a contractor is forced to accept a cut on his bill in order to get a settlement and that is because he failed to forthly himself with a little extra knowledge apart from his actual work.

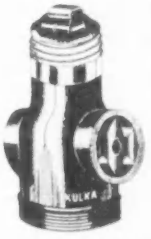
Jacksonville Expansion

(Continued from page 23)

long from manhole to manhole.

Both lines of pipe are being pulled at the same time and are fastened together by a yoke at the pulling end. The submarine section is being installed at a minimum of 5 feet below the bed of the river and will range as much as 30 feet below low mean water level, according to the contour of the river bottom. All work on the river excavation is completed before the pulling of the cable was begun.

The pumping plant will be of



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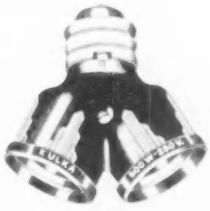
for LAMPS and LIGHTING FIXTURES

More than a quarter century of specialization in producing soundly—engineered electrical wiring devices is your assurance of top quality products at low cost.

CURRENT TAP

No. 204 in brown Bakelite and ivory Urea. Efficient and lasting. Has shadeholder ledge. 660W 250V.



MOLDED TWIN LITE SOCKET

No. 205. Attractively designed in heavy brown Bakelite and ivory Urea. Front-cut unit. 660W 250 V.

WEATHER PROOF SOCKETS

No. 202A (left) Heavy Porcelain shell with molded Bakelite cover. Bronze contact. No. 203 (same style with rubber cover and Bakelite cover. No. 206 (right) Fine Porcelain, has suspension hook. No soldering. 660W 250V.

All items listed by UL

Write for Prices and Catalog

KULKA ELECTRIC MFG. CO.
30 SOUTH ST., MT. VERNON, N. Y.

permanent type construction with four pumps so connected as to operate individually or jointly. The station will be equipped with a permanent installation of filtering and degasifying equipment, and the dual pipe lines can be connected at their outer junction so as to permit circulation of oil through the pipes and a complete re-circulation, filtering and degasifying operation in the event any contamination of the oil should occur. The pump house will be equipped with a carbon dioxide fire extinguishing installation guaranteed to quench any fire within 15 seconds.

The 69 kv cable used for this job is Okonite-Callender "Oilostatic," three single conductor 400,000 circular mils. The total length of the dual cables is 27,500 circuit feet. The pipes are separated 18 inches on center. The 13 kv cable is Okonite-Callender three-conductor, 750,000 circular mils, compact sector, low pressure, gas filled. There are four cables in parallel, 4000 circuit feet.

Control cable consists of 20 pair, No. 16 solid, Latex insulated, neoprene jacketed, encased in Okuseath lead and No. 8 BWG armor. This is buried above the 69 kv pipe cable for five miles. Total length is nine miles.

For the land section of the cable, seamless steel tubing of 5-9/16 inches diameter and .258-inch wall thickness is used, while for the submarine section the diameter is 6⅝ inches with a wall thickness of .432 inch. Both sections are covered with a nominal coating of ⅛-inch Somastic, but the submarine section has an additional protection of one inch of concrete extruded over the Somastic coating.

Potheads are 115 kv made by Ohio Brass Co. Manholes are of permanent type 15 ft. x 7 ft.-3 in. with a minimum headroom of six feet.

The total contract cost of the cable installation is $1,823,000. The general contractors, operating jointly, are the Miller Electric Co., of Jacksonville, and Henry Ihle, Inc., New York. Consulting engineers on the project are Reynolds, Smith & Hills, of Jacksonville.

Wiring the Drive-Ins

(Continued from page 27)

650 feet wide by 400 feet deep. It is 225 feet from the shortest ramp, No. 1, to the screen.

An alternate method of wiring large drive-ins is to locate distribution transformers in the projection booth and obtain electric power from the power company at 440 volts or 2300 volts. Adequate protection must be provided, of course, if current is brought in at 2300 volts.

If the current is brought in at 2300 volts, the power company will probably supply the necessary transformers, but if the drive-in owner took the power at 440-460-volts and then transformed it to 220-volt single-phase, three wire, he probably would have to buy the stepdown transformers himself.

When drive-in transformers and panels are located in the projection booth and furnish current to the heaters at 110-volts single-phase, it is quite apparent that copper conductors of No. 4 size or larger may be necessary to properly carry the load on the longest one-half ramps. In this connection it is well to remember that cables buried in the ground are kept cooler than in most locations and can often be used a size or so smaller than when located in open air or conduit. There are tables which give the exact specifications on this point.

As with all buried wiring on driveins, the conductors must have no splices underground. All splices and connections must be above ground.

In existing driveins the digging of ditches for new cables to supply heaters will be little different from digging the ditches for the original wiring. Fortunately there will be few or no concrete slabs to pierce since most driveins are ramped with gravel. Ditches should be about 36 inches deep.

Ever-Ready
PIN TYPE
Sockets offer the most convenient and economical means of obtaining outdoor or indoor temorary lighting, since the tedious stripping, soldering and taping operations are eliminated.
In street decoration, construction lighting, carnivals, roadside stands, etc., their ease of installation and convenient flexibility is unsurpassed.
Insist on UNION'S PIN TYPE SOCKETS — the FIRST and the BEST.
No. 44408
No. 43308 & 43318 Standard
No. 11108 Candelabra
Sockets
UNION INSULATING CO.
PARKERSBURG, WEST VIRGINIA

Most of the cables designed for use underground without conduits will be suitable for drive-in use.

All contractors should be cautioned, too, that regardless of whether local codes are enforced on the drive-in location since many of them are out of city jurisdictions, that in no case should sub-standard practices be allowed. Each contractor should be certain that the job conforms to both national and local codes regardless of the wishes of the owner.

One of the reasons besides the general safety of the public, is that should a patron be shocked or injured because of sub-standard wiring, he might sue both the theater owner and the contractor. If something like that should happen and the wiring conforms to all codes, then the patron would have little chance to win a suit against the owner or the contractor.

If sub-standard wiring was done at the instance of the theater owner and an accident happened and a suit filed, it is extremely likely that the theater owner could win a damage suit against the contractor by claiming that he was not informed that the wiring was dangerous or sub-standard and that he should not have been permitted to buy it.

Returning to the ditch digging phase, this is a job for a machine ditch digger, such as are commonly used on jeeps and which are available in most communities. Hand digging is almost out of the question because of the high cost of labor and the low production. A mechanical digger will dig several hundred feet of ditch per hour depending on the ground formation.

Store Lighting Problems

(Continued from page 28)

linoleum having a reflectance of approximately 40%. This is also arranged in diamond patterns to conform somewhat with the lighting arrangement.

There are 11 150-watt PAR38 spotlamps in Swivelier No. 811 units spaced on 3-foot centers to highlight the jewelry counter. Also, there are several shadow boxes set at strategic locations above the wall cases. These are lighted with fluorescent strip concealed behind an ornamental cornice around the box. The control of the lighting was through a switch panel in rear of first floor. Each diamond has two 15-ampere circuits for one-half and full light intensity.

The basement was lighted by 55 three-light 40-watt Pittsburgh PF340-ELE recessed louvered troffers. Because of the lower ceiling height, nine feet, troffers were proposed. They are run continuously across the width of the store and spaced 8 feet between each row. Unfortunately, due to the necessity of two headers running crosswise to the joist, two of the continuous rows had to be broken up into individual units. As on the first floor, the basement is treated in the same manner with respect to wall and floor cases, flooring etc. The average intensity is 75 footcandles. The control of the lighting is through a switch panel in rear of basement.

Accent lighting was considered for this store, but owing to the type of merchandising, it was decided to give a wealth of light over the entire area so that a customer can appraise the merchandise quickly.

There are two long show windows leading into the store and each window utilizes a different lighting treatment. The north window is done with a Garex louverall ceiling with fluorescent reflector strips run continuously 12 inches between rows. Supplementing the louverall ceiling are 17 150-watt R40 spotlamps in Gotham No. 671 recessed units. This is a unit in which the recessed portion of the housing is exposed to view and is painted green silhouetted against a corrugated aluminum background. These units are spaced on 18-inch centers just inside the limed plate glass window.

The opposite window is treated

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with 21 200-watt Pittsburgh No. 56-2 reflectors with a parallel louver. This equipment is recessed in the ceiling, which is higher than the other window. Supplementing this are seven 4-light 20-watt recessed louver bottom Kent troffers. The windows are controlled from a switch panel in the basement which, in turn, is controlled through a program Paragon clock.

The front above the windows consists of corrugated metal painted light green with a projecting solid face sign at the north end of the front. There is also a block letter neon sign set on the face of the corrugated metal front.

Ease Tax Problems

(Continued from page 30)

tions are best handled through a general journal, debiting and crediting the proper accounts, writing complete details of the transactions underneath.

The details of a transaction which were crystal-clear when it occurred, grow dim with the years and the Treasury may audit your records for a number of prior years, so write a complete history of all unusual transactions in your books at the time they occur.

(6) Sundry supporting papers. Contracts covering business transactions, cancelled notes for money borrowed, invoices for purchases, insurance policies, profit and loss statements, property tax receipts, state and sales tax records, financial statements and all other papers having a bearing on income and outgo should be filed systematically, alphabetically or by month, with the other auxiliary records mentioned in this article.

Too many contractors let their desk drawers or cabinets become a catch-all for sundry papers pertaining to transactions that indirectly touch upon profits and tax. Get yourself a metal file for the systematic storing of business papers. Keep a tax file also. Put everything in this file that pertains to tax returns, receipts for paid taxes, tax notices, withholding slips, cancelled checks covering tax payments, etc. You never know when you may need these documents and too often they are scattered all over the office.

Keep clippings pertaining to tax in this file. During the year, decisions of the tax board and courts which may have a bearing on your annual return may come to your attention in business papers or elsewhere. File this information in the tax file because it may save you money. Keep copies of all tax returns. You never know when you may have to refer to them in the event that the Treasury makes a survey of your returns for a number of prior years.

(7) Bank book. It is important to report income accurately. If the daily receipts are deposited in the bank by the penny, the bank book will help verify the accuracy of business income reported. Moreover, the bank deposits will agree with the cash book entries. If the contractor dips into the incoming cash pay bills or his personal withdrawals he will have difficulty reconciling his cash book entries with the bank deposits. In the event that the income he reports is questioned by the Collector it may be hard to justify his figures.

(8) Check book. Check book stubs and cancelled checks are essential in justifying tax deductions. We have known many cases where, in the haste to write checks, the stubs were left entirely blank and when an audit was made later it was difficult to identify the exact reason for the payment.

Usually the cancelled checks themselves will clarify the matter, but in transactions of an involved nature a subsequent audit particularly if months have elap-

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and since insurance may fail to identify the exact details of the transaction, hence, the entries are not clear on the books, and they may give trouble on the income tax return.

At the time the check is issued, the payee's name and the reason for the payment should be entered on the check stub so that the proper account can be debited or credited in the books. Large concerns, of course, handle such details systematically, but the small and the moderately sized operator are often remiss here, particularly those who do their own bookwork or who hire part-time bookkeepers.

Cancelled checks should be filed away with the bank statement. Often a contractor will check the statement and let the cancelled checks lie around in desk drawers where they eventually get away. This is bad office practice because cancelled checks are helpful in making certain that all legitimate deductions are taken on the return and since they serve as verification in case of a challenge by the Treasury.

(9) Bank statement. To guard against errors, this statement should be checked promptly upon receipt. Usually a bank statement carries a notation to the effect that it must be checked immediately and errors reported within ten days, otherwise, the bank will not be responsible for errors. Variances between operating records and the bank statement may prove disadvantageous to the taxpayer unless he takes immediate steps to have them corrected.

Bank statements, if they represent income as received, help verify this figure on the tax return; the cancelled checks verify outgo; the difference is not the net income but when the taxpayer's bank statements show the movement of income and outgo as received and disbursed, he is on a sound footing when filing a return. Many bank statements, especially on deposits, do not parallel the book recordings on income, and this may lead to questioning of profits as reported on a tax return.

(10) Petty cash slips. On payouts for small items, such as postage, it is more convenient to pay in cash. If the cash is paid out of pocket, or out of the till, there is no systematic record kept of these expenses, often the taxpayer forgets to list them, and a sizeable sum may be disbursed yearly in this way, never reaching the books, hence these pay-outs are never listed on the return.

The taxpayer cannot approximate his petty cash pay-outs even if he knows that they average so-

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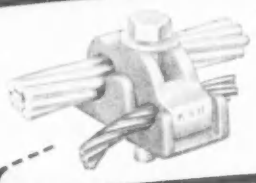

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much a week. He must have petty cash slips covering the pay-outs to be sure of an Okeh from the Treasury. Petty cash slips can be bought in the stationery store in pad form for a few cents. It is best to keep a Petty Cash Fund in a separate drawer, make cash pay-outs out of this fund, recording the expenses on the petty cash slips. This is recognized accounting procedure, yet, many do not use it to their loss, not only on tax, but also in the matter of determining true net profit.

Relay Testing

(Continued from page 33)

of relays but there are still improvements to be desired in the built-in testing features.

It might be mentioned here that nothing slows up testing more than concealed switchboard wiring. After a few years of relay testing and trouble shooting on control circuits a hidden circuit is immediately under suspicion. The deliberate construction of a switchboard with concealed wiring should be punished by requiring the designer to work on it after it is placed in service—especially after a few wiring changes!

The provisions made for maintaining protection during testing or maintenance of relays and circuit breakers will depend upon the importance of maintaining service, of limiting damage to equipment, and upon policy as to the amount of protection to be maintained during short-time abnormal conditions.

Normally, protective installations are designed specifically for a particular circuit and removal of any item either subjects the equipment to more than normal damage in case of trouble or subjects the system to major disturbances following faults.

There was a time when the relay tester checked the weather with the load dispatcher and, if everything looked normal, made the relays non-automatic and went on with his testing. The reason this procedure caused little, if any, system trouble was due partly to luck but mostly to the fact that, under normal conditions, the possibility of needing the relays for operation during such a short test period is small.

Common methods of making protective relays available for test and at the same time retaining protection, except in one case, may be summarized as follows:

(1) Make the relays non-automatic. This is the least desirable method and should not be used unless unavoidable. In any case back-up protection should be available to prevent equipment damage and minimize interruptions to service.

(2) Test one relay at a time. This is practical with most drawout relays or with adequate test block arrangements and may be considered reasonably satisfactory from the standpoint of protection to equipment or service. Some of the later type drawout distance

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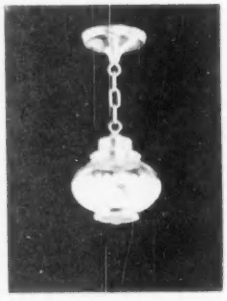

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relays do not lend themselves to this type of testing without additional test blocks or removal of partial protection on all three phases while one relay is being tested. This includes distance relays with external networks or single timers for three relays. This statement is made in a spirit of constructive criticism because it is felt that further improvements can be made in these facilities.

(3) Substitute a bus tie OCB for the circuit to be tested. If adequate relays are available on the bus tie, this is an ideal arrangement as it permits a complete check of all protective and control equipment as well as operation of the OCB.

If only overcurrent relays are available on the bus tie they are seldom completely satisfactory for transmission lines normally equipped with overcurrent relays, this arrangement is entirely satisfactory. For other circuits duplicate relays may be provided on the bus tie but this is not considered necessary. Where this is not done, some form of partial protection must be accepted.

To date we have made little use of special relay installations, other than overcurrent, on the bus tie breaker although more complicated temporary installations have been used.

In order to release line circuit breakers for maintenance, we have a widely used transfer scheme for connecting the line OCB relays to the current transformers and trip wire of the bus tie OCB. This gives normal line fault protection but in some instances use of the bus tie for another circuit makes it necessary to cut out bus or bank differential schemes. Normally, other automatic features, such as reclosing and check facilities are not transferred. This scheme requires, in addition to a flexible six-conductor cable with test plugs on each end, a test block in the CT circuit of each OCB to be transferred. This scheme, of course, cannot be used when testing the line relays.

(4) Transfer the circuit to be tested to a circuit breaker in service on another line. This is a common scheme, especially for low voltage line circuits. Normally it requires nothing more than an adjustment of relay setting on the doubled up circuit and frequently this is unnecessary. The chief disadvantage of this arrangement is loss of two circuits for trouble on one. This arrangement may be used but is not as satisfactory for high voltage circuits equipped with distance, pilot wire, or carrier current relaying.

(5) Take the circuit out of service. If practical this is the usual satisfactory arrangement but unfortunately it doesn't work out in practice. It presupposes a tie line that can be opened, a circuit with adequate alternate supply, or a load which can be interrupted. It is seldom that the current outage can be made to coincide with any routine test schedule

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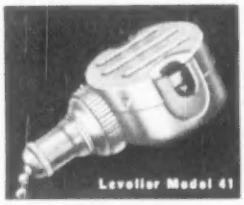

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ule and trying to make a test schedule coincide with such outages invariably means extra trips and probably night or week-end work. In the case of generators there is usually enough testing to be done to justify special test schedules which will coincide with major maintenance outages of the generators. It is desirable that such equipment be tested while the generator is off the line as the reduced protection and possibility of accidental tripping might cause serious trouble at large generator installations.

The test engineer has two types of testing to take care of—routine testing of equipment in operation and the checking, setting and testing of protective and control equipment in connection with new installation. This latter work in these days of rapid construction of new generation and transmission facilities takes a major portion of available personnel and time at the expense of routine testing. It consists of:

Wiring checks.

Testing and setting all protective relays.

Testing and checking auxiliary control equipment.

Operational checks.

Ratio, polarity, excitation and connection checks on current transformers.

Any necessary phasing out prior to cutting in new equipment.

Current, voltage, phase angle and any necessary operation checks during and immediately after the cut-in.

Routine test schedules on the basis of once a year include complete calibration tests, a general inspection and an operational check of all automatic equipment. It is probable that an intermediate check between general inspections would be justified where it includes a visual inspection of all protective equipment and the operational checks of automatic equipment.

Routine tests include:

Induction Overcurrent Relays

"As Found" tests of pick-up and timing at 500% of minimum.

Necessary inspection, cleaning and adjustment, final setting at 500% of minimum and generally three points on a calibration curve. The low current, long time points will generally tell more about the condition of the relay than will the high current test points.

Tests are generally made on tap 4 or 5 phase relays and on the operating tap for ground relays. Ground relays may be checked for timing at 1000% of minimum. Most tests are limited

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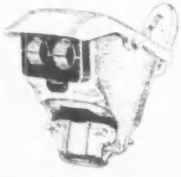

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to a maximum current of 1000% of tap setting or a maximum of 20 to 30 amps, with tap changes if necessary to keep test current within this range. This current limitation is partly to prevent excessive heating of the relay while adjusting test current and partly on account of limitations of test equipment and station service supply.

All circuit opening overcurrent relays are given a final check by passing a heavy current through the relay, with trip coils connected, in order to insure that the relay contacts properly short out the trip coil. The trip coils are also tested to see that pick-up is not above relay tap setting and preferably below four amperes.

Where capacitor tripping devices are used at distribution substations, special tests are made to insure that they will operate under abnormal conditions such as with a ground or short circuit on the phase supplying station service.

Distance Relays

For distance relay checks a more complicated program is required. This will include impedance or reactance checks of each zone cut-off point, timing for each zone and contact co-ordination. The test kit shown in Figure No. 2 is set up to simplify the various current, voltage and phase angle settings required for any type distance relay.

After every relay test a final check includes reading current in all phases and determination that all control circuits are normal. With modern drawout relays or with adequate test blocks it is not easy to leave a circuit abnormal but in the older stations the test switches or links used for clearing circuits are not so obvious. All tests include physical checks of condition of relay contacts, connections, etc.

As in every other business, relay testing requires detailed records. These start with a file on short circuit data with calculations and curves for relay settings. Following this is the field test data sheet which shows all pertinent C.T. and relay data plus field test data on the relays. After relays are in service the field data is summarized on special forms and filed in a loose leaf binder alphabetically by stations.

For routine office reference a minimum number of blue prints are kept filed for each station. These are: the single line diagram or elementary diagram in special cases involving complicated control schemes, and a schematic wiring diagram.

The first and second of above diagrams are conventional and well known. The schematic wiring diagram is not as generally used by the industry. It is essentially a simplified wiring diagram showing actual rear view connections of all relays. They are particularly useful for ready reference where the elementary diagram is impractical without detailed study.

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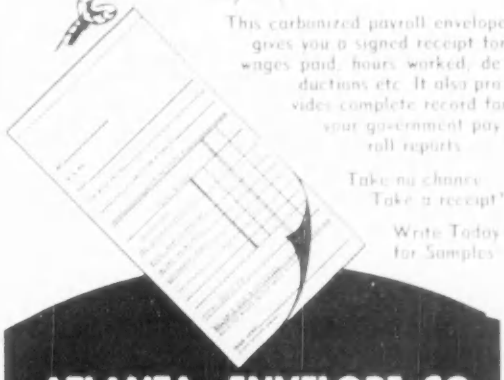

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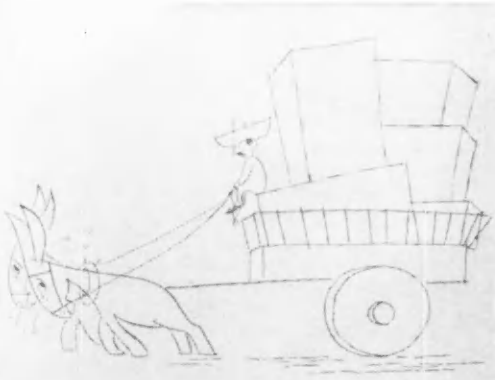

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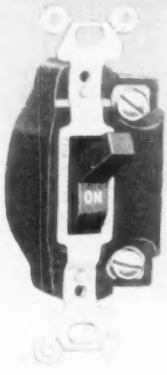

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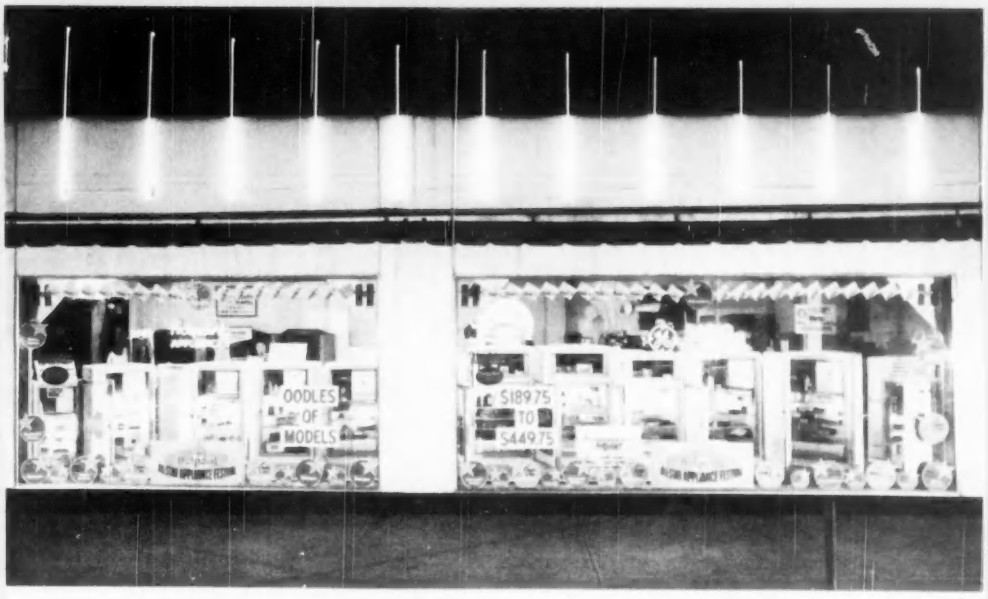

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How to Stage a TV Carnival 76
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HANDYHOT CORNPOPPER
Model 2101 $6.95

Pops corn in cooking oils without stirring. Has many home uses as a utensil to heat soups, vegetables or to make candy and as a deep fat fryer. Full heat resistant glass cover allows watching while cooking. Popper bowl is of heavy gauge, polished aluminum. Black plastic serving handles on popper bowl. Separate stove with cool-grip handles permits use as a table stove with coffee maker or small pots and pans. Removable cord set.

Handyhot quality appliances are great traffic builders. They offer every housewife the means of saving time and work during the course of her day's activity. Handyhot appliances are "wanted" items in every home, by every customer you sell. Count on their "Buy Appeal" with your trade. These superbly designed appliances are the ultimate in convenience and utility at popular prices. Stock them, display them and watch them make fall and winter sales for you!

SEE YOUR HANDYHOT DISTRIBUTOR TODAY

HANDYHOT AUTOMATIC PERCOLATOR
Model 1904—$12.95

(Zone 1) $13.95 (Zone 2)

Beautiful new completely automatic percolator has full 8 cup capacity. Changes automatically from high to low heat when brewing is finished. Keeps coffee at proper serving temperature. Aluminum finish with black plastic handles. AC only — 600 Watts.

HANDYFREEZE ONE QUART ICE CREAM FREEZER
Model 2201 $18.95

Old fashioned ice cream made the modern way, using the ice cube supply from an average home refrigerator. White plastic tub may be used as ice cube bucket. Extra cream can assembly is available so that additional quantities may be made at one time and stored in refrigerator. Standard 4 Qt. and 6 Qt. models also available.

STAINLESS STEEL WASHER WITH AUTOMATIC TIMER
Model 2601 $39.95

Set it! Forget it! Shuts off automatically when clothes are washed. Has laundering time guide for various fabrics. Stainless steel tub, 7 gallon capacity, holds three pounds of dry clothes. Other models available from $26.95.

DELUXE JUICIT
(Approved by Sunkist)
Model 2701 $21.50

New deluxe model — Porcelain reamer — special stainless steel strainer oscillates at high speed — strains and extracts all fresh juice quickly and easily — gets all health giving vitamins — convenient on-off switch.

Standard Model available — $14.95.

Look for the Gingham Package! It identifies Handyhot's Complete Line — Backed by 45 Years of Manufacturing Experience.

Handyhot

Quality Electric Housewares

Chicago Electric Manufacturing Company, Chicago 38, Ill.
Makers of Handybreeze Fans

Write for complete Handyhot catalogue and the name of your nearest Handyhot distributor.

Kaufmann's —PITTSBURGH

DISCOVERED YEARS AGO IT WAS A SMART MOVE TO...

Switch to Hotpoint!

for YEAR 'ROUND Profits!

Like a lot of other good stores, Kaufmann's—Pittsburgh—finds that Hotpoint's year 'round sales program has helped balance its electric appliance sales for greater monthly profit!

KAUFMANN'S is Greater Pittsburgh's largest store. Their electric appliance department is the largest and finest in the Pittsburgh area. Constant, steady, profitable turnover is mandatory with Kaufmann's and that's why they enjoy top position in their field. Hotpoint's full line of Electric Home Appliances was selected by Kaufmann's long ago because Hotpoint's year 'round sales program fits perfectly into Kaufmann's sound merchandising plan.

Kaufmann's "Switch to Hotpoint" is only one example of how thousands of the country's leading home appliance merchants have learned the value of the Hotpoint Full-Line Franchise. Follow the pattern being set by the leaders. Make it a point to see your Hotpoint distributor soon.

★ *No More "Letdowns" Following Hot Selling Seasons*

★ *No More "Doldrums" That Eat Away Profits*

★ *No More "Valleys" That Reduce Profit Peaks*

. . But a Full Line of Products that Insures a Full Year of Profits

Switch to Hotpoint!

for YEAR 'ROUND Profits!

Hotpoint Inc.

RANGES • REFRIGERATORS • DISHWASHERS • DISPOSALLS® • WATER HEATERS • FOOD FREEZERS
AUTOMATIC WASHERS • CLOTHES DRYERS • ROTARY IRONERS • CABINETS

5600 West Taylor Street, Chicago 44, Illinois

UNIVERSAL Triples

WITH THESE THREE

THE FAMOUS *Speedliner* RANGE LINE

WITH EXCLUSIVE THERMO-CHEF... the amazing, versatile "second oven"!

PUSH-BUTTON PRE-HEAT... 40% faster, fully automatic. Foolproof!

SUPER-HEAT MONOTUBE UNITS... fastest, most efficient unit made. Warp-proof!

7-HEAT SWITCHES... not 3 or 5, but 7 degrees of heat, simmer to boil!

A MODEL FOR EVERY PURSE AND PURPOSE... UNIVERSAL GIVES YOU THE WIDEST, MOST COMPLETE RANGE AND WATER HEATER LINES IN THE INDUSTRY!

PLUS

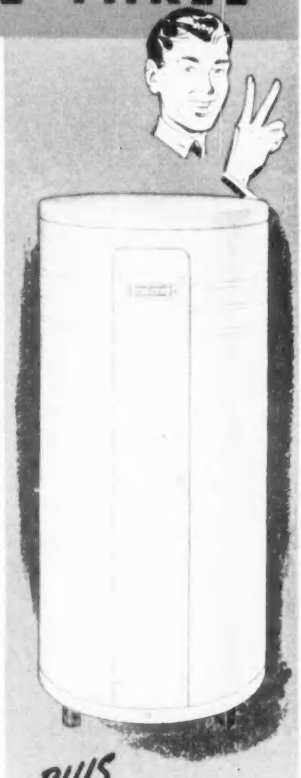
NEW LOW PRICES...

"WAFFLE" CHROME TRIM

...FRONT SERVICE...

PORCELAIN DRIP PANS!

Of course it's Electric!



PLUS

NEW EASY-CONNECTING TABLE TOP MODEL...

Saves 50% in time and labor costs in installation through "stand up" connecting at top. New savings ... better connections!

Your Sales Power

GREAT "RELATED LINES"

THE MATCHLESS

Water Heater

LINE

WITH

SUPER-HEAT IMMERSION UNITS...
for faster, more economical heat!

INVERTED WATER BAFFLE...
to minimize cold water mixing!

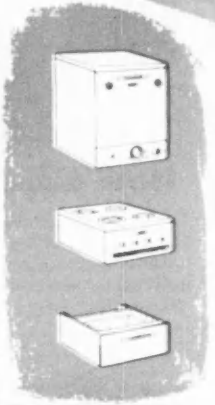
EXCLUSIVE TEMP-O-STAT...
greater safety and protection!

ANODIC ROD...
completely eliminates "red water"!

THE SENSATIONAL

Select-a-Range

LINE



WITH MORE THAN 25 ARRANGEMENTS...
from just 3 basic units!

"CONVENIENCE-LEVEL" NO-STOOP OVENS...
adjustable height!

RIGHT OR LEFT HAND AUTOMATIC OVENS...
as your customer prefers!

BUDGET OR DELUXE ARRANGEMENTS...
to fit every prospect's purse!

NEW BUILDING OR MODERNIZATION
means more sales for you!

LOW INVENTORY—HIGH TURNOVER...
triples your profit potential!

THE MOST PUBLICIZED RANGE IN AMERICA... AND IT'S EXCLUSIVELY UNIVERSAL!

Of course ...it's

UNIVERSAL

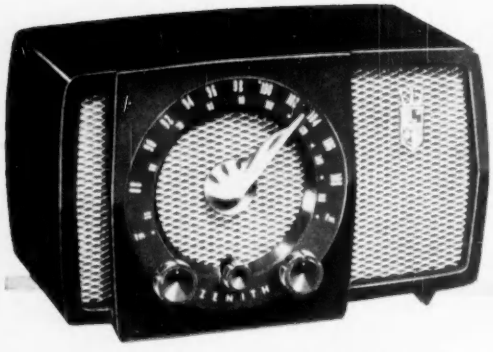
LANDERS, FRARY & CLARK, NEW BRITAIN, CONN.

ZENITH ANNOUNCES

2 Super-Sensitive FM-AM Radios

with Performance Superiority that makes Sales!

Again Zenith lengthens its lead over the FM-AM field — with new and better versions of the Zeniths that were already the industry's two best sellers. With Zenith's unrivaled Super-Sensitive FM, they bring in a wealth of entertainment, static-free and real as only genuine FM can be. Their newly designed cabinets are the style highlights of the radio year. Of course, both have Zenith's famous Long Distance AM, big Zenith-built Alnico speakers and other Zenith advantages.



New Super-Medallion

Genuine Super-Sensitive Zenith-Armstrong FM plus Zenith Long Distance AM — automatic volume control — built-in Wavemagnet* and Light-Line Antenna — cabinet of beautiful maroon plastic with Roman Gold mesh grille and tuning indicator.

New Super-Triumph

The same Super-Sensitive FM and Long Distance AM as the Super-Medallion, plus new broad-range tone control — jewel-like on/off indicator — maroon plastic cabinet with "Flexo-Grip" carrying handle — Roman Gold embossed dial.

Zenith is No. 1 for '51!

ZENITH RADIO CORPORATION, CHICAGO 39, ILLINOIS

Over 30 Years of "Know How" in Radionics Exclusively

ALSO MAKERS OF AMERICA'S FINEST HEARING AIDS

ZENITH RADIO and TELEVISION

CATALOGS and BULLETINS

Available Free to Readers of Electrical South upon Request

(Additional items will be found on pages 5, 9 and 69)

2004—Air Conditioning Equipment. New Bulletin No. 4158 B, "Central Air Conditioning Equipment," contains comprehensive information on this type of equipment along with charts, specifications, and maintenance instructions. The bulletin has been released by Buffalo Forge Co., P. O. Box 985, Buffalo 5, N. Y.

2010—Water Heaters. An illustrated folder describing Bell Water Heaters and the ten-year guarantee and warranty is available from Adcar Mfg. Co., Nugget Field, Dothan, Ala.

2012—Room and Unit Heaters. Electromode Corp., 45 Couch St., Rochester 5, N. Y., has announced two new catalogs, each of which contains descriptions, complete specifications, illustrations of the units, and shows typical installations as well as other helpful information concerning heating by electricity. Catalog EC-62 is the industrial catalog and No. EC-63 is the domestic catalog.

2014—Hot Water Heaters. Information and well-illustrated data are available from M. M. Hedges Manufacturing Co., Inc., Clothmoor, Texas, on their line of Maytland Automatic water heaters.

2018—Electric Fans. A 28-page, profusely illustrated booklet describes in complete detail, this company's line of fans. Booklet available from Emerson Electric Manufacturing Co., 4737 and Emerson Ave. So., Fans, 21, Mo.

2022—Window and Attic Fans. A four-page catalog piece completely illustrated and containing descriptive information on the new low cost "all in one package" window and attic fan has just been released by the Viking Air Conditioning Corp., 5603 Walworth Ave., Cleveland 2, Ohio. Illustrations of automatic closing shutter and automatic electric timer are included.

2024—Electric Water Heaters. New specification sheets are now available for a full line of cylinder and table top models, featuring the Water Hotter from the White Products Corp., Middleville, Mich.

2028—Fans. Catalog Nos. 503 and 504, just issued by Chelsea Fan & Blower Co., Inc., 231 South Ave., Plainfield, N. J., include descriptive copy, specifications, dimensions, photographs etc., of a full line of fans for residential, commercial, and industrial uses. These catalogs include information on 17 types of ventilating and comfort cooling equipment varying in size from 12 inches to 60 inches.

2030—Electric Fans & Drills. Signal's complete line is shown in a new catalog just off the press, featuring a wide variety of desk, pedestal, exhaust, and vent fans. Emphasis on drills, telegraphic equipment, and motors is also available from the Signal Electric Mfg. Co., Menominee, Mich.

2032—Electric and Gas Water Heaters. Four-page illustrated folders explain outstanding features of Fowler water heaters including porcelain lining, "black heat" elements and 4-way insulation. These folders list specifications, dimensions, and construction details, and are available to an Fowler Manufacturing Company, 2-47 S. E. Caldstone St., Portland 2, Ore.

2034—Electric Flat Irons. Full information on American Beauty Electric Flat Irons in a weight, a shape, suited to home, hotel, as well as every industrial and manufacturing use, is available for literature from the American Electrical Heater Company, 5441 Cass Ave., Detroit 2, Mich.

2038—Murray Ventilating Fans. A set of specification sheets is available describing the Murray line of fans, including 48 and 24 inch window fans and vertical and horizontal ventilating fans. H. C. Bigbie Gas Inc., 127 Hang St., S.W., Arlington 3, Va., is exclusive sales agent for the state which is manufactured by Murray Co. of Texas, Inc.

2040—Electric Blowers and Exhausters. Bulletin 50442 describes Types 1 and 1½ Buffalo Blowers and explains recommended by Buffalo Forge Co., P. O. Box 985, Buffalo 5, N. Y. A new catalog of the complete series, from smallest to largest, is also available. Catalog No. 4158 B, Buffalo Forge Co., Buffalo 5, N. Y. (Additional items will be found on page 69)

2042—Window Fans. Mears Electric & Machine Co., Inc., 3723 E. Washington St., Indianapolis 7, Ind., have available the following catalog sheets: Form 2707, which describes and illustrates each of their five Nuwav Windolaire; Form 2709, describing and illustrating three three-blade and one four-blade Nuwav Quiet Propellers; and Form 2710, which illustrates the Nuwav Windolaire No. BW 240 or BW 240.

2046—Household Electrical Appliances. Dominion Electric Corp., 126 Elm St., Mansfield, Ohio, offers catalog information and sales aid on electronic air cleaners, other electrical appliances, and Lamb Electric.

ELECTRICAL SOUTH,
806 Peachtree St., NE
Atlanta 5, Ga.

October, 1950

Gentlemen:

Please send me the bulletins and catalogs indicated.

(Print Plainly)

Name _____ Title _____

Company _____

Address _____

City & State _____

Circle numbers below. Bulletins and catalogs will be mailed promptly.

2004	2010	2012	2014	2018
2022	2024	2028	2030	2032
2034	2038	2040	2042	2046
2056	2058	2068	2055	2070
2072	2074	2078	2088	2090
2092	2094	2096	2098	2100
2102	2104	2106	2108	2110
2112	2114	2116	2108	2110
2112	2114	2116	2118	2120
2122	2124	2126	2128	

Betty Crocker has a way with men customers, too!

Everybody knows the tremendous influence Betty Crocker has on women's buying habits. Every year on her recommendation U. S. women buy millions of General Mills products—General Mills Appliances included, of course! Now in this appealing Christmas ad, Betty Crocker will prove she has a way with the men (as well as the women looking over their shoulders) when it comes to selling them on completely modern General Mills Appliances. So look for lots of men among the record number of gift-shoppers asking you for "*the appliances sponsored by Betty Crocker.*"

YOUR CUSTOMERS WILL READ THIS AD IN LEADING PUBLICATIONS:

- Nov. 26 *American Weekly*—right on page 3!
- Nov. 25 *Sat. Eve. POST*—BACK COVER!
- In the December issue of the *Woman's Home Companion* and leading farm magazines.

They'll hear about it on:

- Betty Crocker's daily radio program.

See it brought to life on:

- Betty Crocker's sensational new television program.

GENERAL MILLS HOME APPLIANCES, 1620 Central Avenue, Minneapolis, Minn.

2056—Reheat Heaters. Chas. L. Wagner Co., 7500 Thermo Blvd., Pittsburgh 8, Pa., has prepared a portfolio of Chromalox Reheat Heater Application Reports. In addition the portfolio includes catalog sheets and technical data on the Chromalox "RAH" heaters.

2058—Exhaust Fans. A new Universal Electric Exhaust Fan catalog, illustrating and describing an entire line of fans for all types of fan requirements, is offered by the Emerson Electric Mfg. Co., 2012 Washington Ave., St. Louis 3, Mo.

2064—Electric Fans. An attractive, 8-page, four-color catalog of Zephaire fans has been made available by the Hunter Fan & Ventilating Co., P. O. Box 4545, Memphis 2, Tenn. A comprehensive description of this complete line of fans is given with complete specifications and illustrations.

2066—Shutters & Dampers. A 12-page catalog, No. 50, is available from the Ilg-Shutter Mfg. Co., 2758 W. Wright-ton Ave., Detroit 8, Mich., describing the 47 different types of electric thermostatic units manufactured by them, and as used in connection with ventilating and air conditioning installations.

2070—Zephair Fans. Hunter Fan and Ventilating Co., Inc., 460 So. Third St., Memphis, Tenn., issued a new 8-page catalog containing detailed information on the Hunter Zephair Fans for home and industry.

2072—Reed Unit Fans. Two new 4-page leaflets on unit fans have been published by Reed Unit Fans Inc., 1303 St. Charles Ave., New Orleans 13, La. Material included in these booklets covers design, economics and installation of the Reed window and attic fans respectively.

2074—Ventilating Fans. The complete line of G. & H. ventilating fans is pictured, with dimensions and details in a new 24-page catalog. Described are exhaust fans, window fans, air circulators, portable and desk fans, and fan accessories such as grilles and shutters. G. & H. Air Conditioning Fan Co., Inc., 1603 DeKalb Ave., NE., Atlanta, Ga.

2078—Sales Helps. A variety of sales helps, including Sound Slide Colored Training Films; How to Sell Booklets; Consumer Pieces; Specification Sheets; Demonstration Kits; Display Cards and Promotion Kits for selling and demonstrating General Mills Home Appliances—Pressure Quick Saucepan, Tru-Heat Iron and Steam Ironing Attachments are available to dealers from General Mills Inc., Home Appliance Dept., 1620 Central Ave., Minneapolis 13, Minn.

2088—Air Circulators. Vornado's complete line for 1950 presented in a four page, three color catalog sheet. Items shown include a wide variety of desk models, tabletop, floor-stand, and turnabout window fans. Also available is a 3-purpose holder on Vornado's new, turnabout console window fan. Form 5050. The G. A. Sutton Corporation, 1402 West Second St., Wichita, Kansas.

2090—Fan Blade & Bottle Opener. An illustrated circular just describing Silver Knick-Knack Desk Fan Blade & Bottle Opener has been announced as available from S. J. Stewart Distributing Co., 51 St. Joseph St., New Orleans 12, La.

2092—Air Circulators and Window Fans. The Complete Line of Kool-Flow Model Air Circulators and Portable Window Fans for 1950 is illustrated and described in a series of two color catalog sheets and envelope, soon available. To the trade A Service Sales Manual containing product and specification data is available. Address Dept. K-50. Kool-Flow Corporation, 1700 Roscoe St., Chicago 13, Ill.

2094—Marquette Refrigerators. Refrigerator, range and water heater folders are available from Marquette Appliances Inc., Division of Minneapolis-Moline Co., Minneapolis, Minn.

2096—Marquette Home Freezers. A new booklet on Marquette Home Freezers is available from Marquette Appliances Inc., Division of Minneapolis-Moline Co., Minneapolis, Minn. Address inquiries for Marquette Appliances Inc., 1600 E. Hennepin Ave., Minneapolis, Minnesota.

2098—Marquette Electric and Gas Water Heaters. Excerpts from the specifications of water heaters are covered in a 4-page folder prepared for architects and engineers by Marquette Appliances Inc., Division of Minneapolis-Moline Co., Minneapolis, Minnesota.

2100—Marquette Electric Ranges. An attractive catalog and specification sheet is available on each of the four popular Marquette ranges for free from Marquette Appliances Inc., Division of Minneapolis-Moline Co., Minneapolis, Minnesota.

2102—Marquette Gas Ranges. Two specification sheets describe the complete line of gas automatic ranges for 1950. Also included is a 4-page folder describing the Marquette Automatic Water Heater. Inquiries to Marquette Appliances Inc., 1600 E. Hennepin Ave., Minneapolis, Minnesota.

2104—Marquette Home Laundry Equipment. Includes Washers, Dryers, and Ironers. Inquiries to Marquette Appliances Inc., Division of Minneapolis-Moline Co., Minneapolis, Minnesota.

2106—Fan and Centrifugal Blowers. Catalog No. 51VB, 8-page, 8½ x 11 inches. The Sturtevant Engineering Co., Ltd., Lindsey St., London, E.C. 1, England. Describes the Sirocco fan and centrifugal blowers. Contains illustrations, dimensions, capacity tables, and other data.

2108—Household Refrigerators. Frost-less Home Freezer, Locker Room. Complete information regarding Crosley's newest refrigerator models can be had from the Crosley Corporation, now combined as Crosley-Bendix, and dealers can get their copies from their distributors. Write Crosley-Bendix, Inc., Cincinnati 25, Ohio.

2110—Select A Range. Lambert Heat & Oil Saver Burner, Evans Kitchen Cabinet contain full information on Automatic conveniences now Select A Range with the convenience Level Oven. Blueprint instructions of range for Ranch House Walls Heritage and Info how to install it.

2112—Oil Heaters. An elaborate catalog, 24 page catalog, entitled "Streamlined Heating" describing and illustrating the complete Series 700 Oil Fired Oil Heaters and Kerosene Heaters is available from the National Furnacing and Stamping Company, 2510 N. 27th St., Milwaukee 6, Wis.

2114—Electric Heaters. A most colorful, 16-page booklet from Modine Electric Heaters, Inc., 145 Sixteen St., Buffalo 5, N. Y., presents a complete line of unit heaters, wall heaters and controls. Electric models for every room in the house and other applications are described.

2116—Replacement Heating Units. Gas electric water heater information on the complete line of electric warmers, voltages, and sizes of water heater units of the Immersion Type can be obtained by writing to Tappe & Kay, Inc., 1700 N. Monroe Ave., Milwaukee 1, Wisconsin.

2118—Electric Fans. Robbins & Myers Inc., Springfield, Ohio offers an attractive 32-page illustrated catalog covering the cooling features, design details and performance ratings of R. & M. domestic, commercial and industrial fans for 1950. Several methods of selecting proper fan for job are explained.

2120—Excelsior Electric Housewares. Colorful literature and full information on the full line showing the complete line of Excelsior Electric Housewares products for 1950 is available from Excelsior Electric Co., Racine, Wis. Write for Catalog and Dealers' Helps and Dealer Franchise and Do not Brochures. The Dealers line are available and extensively from Sears through Mail Order W. Bingham Co., Electric Office.

2122—Surface Heating Units. For cooking, canning, etc. Complete information on these Air Stream Electric Heating Units for Ranges, Water Heaters, Canning Units, etc. Write for Bulletin 1000 and Electric Heaters

what's in a Name?

A good name is a magnet. People will flock to see a name-actress or name-singer, a name-ball-player or a name-boxer.

Name-stars in any field earn this public approval by consistently turning in a fine performance—and so does a product.

For 49 years Kalamazoo products have been giving their buyers honest value. That's why a Kalamazoo Dealer is handling "pre-sold" products which people want to buy—because they trust the Kalamazoo name.

SENSATIONAL *TWO-OVEN*,
AUTOMATIC ELECTRIC E-143

- TWO Big Thermagic Ovens with precision heat control. One is fully automatic . . . starts, controls and stops cooking.
- TWO Waist-High, Smokeless Broilers.
- TWO Giant Super-Speed, self-cleaning Chromalox surface units with 7 heats.
- TWO Medium size Chromalox units.
- TWO big Drawers for cooking utensils.
- Automatically controlled Utility Outlet.
- Automatic Range Timer, controls oven, utility outlet, and left rear surface unit.
- Distinctive, One-Piece Uniflow Top unit, with Built-in Fluorescent Lamp.
- Snow-White, Acid-Resistant, Chip-resistant, Titanium porcelain enamel finish.
- Overall size—40 in. wide x 25½ in. deep x 36 in. high.

ADVERTISED IN LIFE

Two Oven Electric Luxury

At an Amazing Low Price!

Refrigerators—Three 9 cubic foot models

Freezers—Four sizes 4, 8, 12, 16 cubic feet

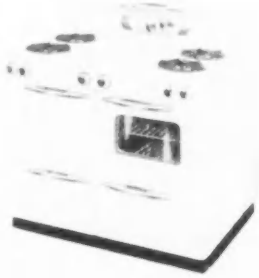
Washers—For all-new mode

Combination Ran

DEALERSHIPS AVAILABLE!

The name's the thing! Kalamazoo has it! And these 1956 Kalamazoo ranges are definitely outstanding in every line and feature. Outstanding in their value appeal! . . . A real money-making opportunity. In addition to all gas models and 6 electric ranges, the Kalamazoo Line includes combination ranges, coal-and-wood ranges, washers, refrigerators, freezers, gas and electric hot water heaters. All priced and discounted for maximum distributor and dealer profits.

For complete information, write The Kalamazoo Stove & Furnace Co., 456 Michigan Ave., Kalamazoo, Mich.



HOME APPLIANCES

KALAMAZOO

HEATING EQUIPMENT

GAS RANGE WITH GLASS OVEN WINDOW

- Automatic Thermagic Oven.
- Waist High, Smokeless Broiler.
- One-Piece Uniflow Top—40 inches wide—with Fluorescent Lamp.
- Hi-Lo, Multi-Flame Burners.

This new

Chromalox *Range Unit* Replacement Manual

helps you

SPEED REPLACEMENTS

*

INCREASE SALES

*

BOOST PROFITS

Appliance and service men— CHROMALOX, largest exclusive electric heating unit manufacturer, offers this Range Unit Replacement Manual *FREE!* 20 Pages! New CHROMALOX Units! Short-cut service techniques and data vital to all service shops!

It shows how CHROMALOX Replacement Units save time, money and work . . . demonstrates how you can quickly service *ALL* electric ranges with only a screw driver and pliers. The Manual lists over 300 ranges and the *right* units to use for servicing them.

Too, it shows how you can get *plus* business servicing domestic hot water heaters with CHROMALOX Water Heater Replacement Units.

on new ranges and for modernization

Send for Your Copy Today!

Fill in and Mail Coupon NOW for Chromalox Replacement Manual

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Company

Street

City Zone State

EDWIN L. WIEGAND COMPANY

7800 Thomas Boulevard • Pittsburgh 8, Pa.

CHROMALOX

"Electric Cooking at its Best!"

C. E. Rogers, 1600 Peachtree St., N. E., Atlanta, Ga. • J. S. Ward Co., 1 Commerce St., Dallas 1, Texas; 907 M & M Bldg., Houston 2, Texas; 333 Carondelet St., New Orleans 12, La.; 1819 So. Boston St., Tulsa 5, Okla.; W. E. Phillips, P. O. Box 7266, Raleigh, N. C. • W. E. Phillips Co., 1105 Lamb Ave., Richmond 22, Va.

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The editorial and business staff of ELECTRICAL SOUTH is eager to serve you. One way in which we can help you is to make it easy for you to draw upon the wealth of technical and promotional material available from manufacturers.

In the accompanying pages are the descriptions of scores of useful catalogs, application information booklets, and technical publications. These are available without charge.

Check over the list of publications available, circle the numbers of the ones you need, and mail the coupon to us with your name, title, company and address plainly written. We will tell each manufacturer to send directly to you the information you want.

●

The staff of ELECTRICAL SOUTH will be glad to help you with other problems. They will obtain expert advice for you on both technical and business problems. The services of a number of consultants are available. Whether your problem relates to sales promotion, lighting or wiring layouts, applications of the National Electric Code, or equipment application, it will receive careful attention.

●

Address your requests to:

Reader Service
ELECTRICAL SOUTH
306 Peachtree St., NE
Atlanta 5, Ga.

YOU'LL BE SEEING THIS Westinghouse "Freedom" Girl EVERYWHERE YOU LOOK

All over America, October 27 to Nov. 4, will be "Freedom Week" for Westinghouse Retailers. This hard-hitting Promotion is going to make refrigerator history!

SHE'LL DOMINATE AD PAGES in Life, Saturday Evening Post, Collier's, Household, Pathfinder, Country Gentleman, Successful Farming, Good Housekeeping and Farm Journal.

NEWSPAPER READERS from coast to coast will be hearing her cry of freedom.

SHE'LL BE ONE of the star attractions on the Westinghouse "Studio One" TV show, Oct. 30.

IN SHOW WINDOWS and on retail store floors she'll be stopping traffic.

PUT THIS GAL on your sales staff and watch her stir up interest and action.

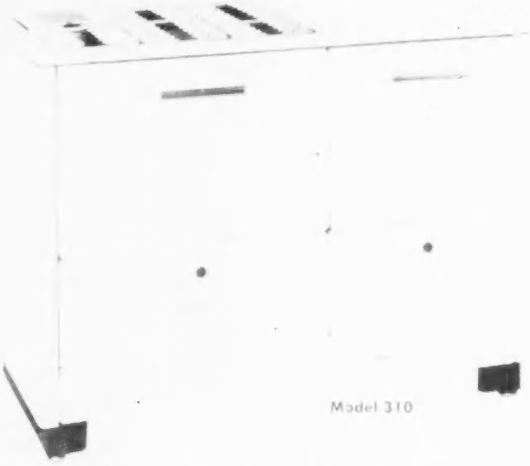
WESTINGHOUSE ELECTRIC CORPORATION
Electric Appliance Division · Mansfield, O.

...of course, it's electric!

YOU CAN BE SURE..IF IT'S Westinghouse

THERE'S A NESCO MODEL FOR

In the complete line of
NESCO
Ranges and Stoves



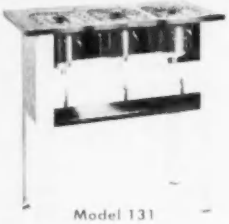
Model 300

Model 320

Model 310

The Nesco Kerosene Range is famous as "The Kerosene Range that cooks like a Gas Range." Made in several models —all quality-built, all equipped with economical, efficient Nesco short-chimney burners. All models have other features that make them outstanding values in their price classes.

STRAIGHT LINE STOVES

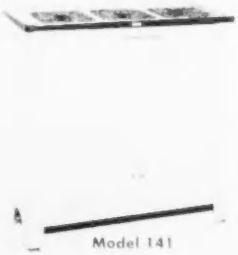


Model 131

Low Cost — Dependable — Economical to operate!

These popular models will fit even the smallest of kitchens. They're ideal, too, for the laundry and summer cabin. Many fine Nesco features, yet amazingly low priced!

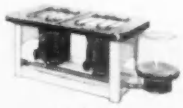
Model 121



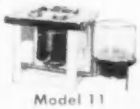
Model 141

LO-BOY STOVES

Model 31
with No. 1 Legs

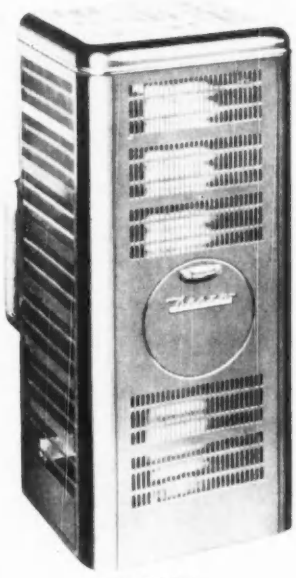


Model 21



Model 11

EVERY PURSE AND PURPOSE!

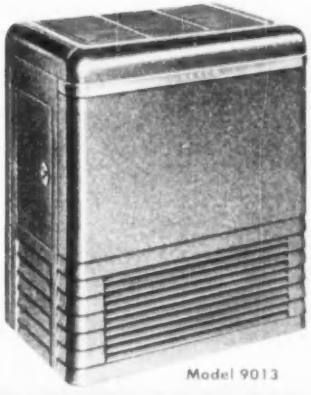


Model 750

CIRCULATING RADIANT FUEL OIL HEATERS

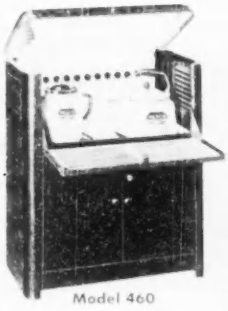
There's a Nesco Fuel Oil Heater for every heating problem. Heating capacities of the models illustrated range from 5,750 to 8,750 cu. ft. of space. Outstanding features include Breeze burners, A.P. Constant Level Valve, No-Stoop Fuel control, Automatic draft control. Finished in rich mahogany.

In the complete line of NESCO Vented and Unvented Heaters



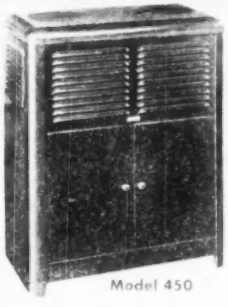
Model 9013

Model 7010



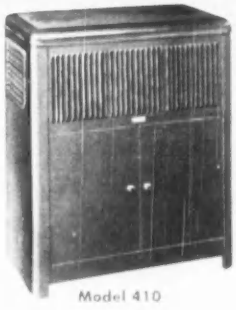
Model 460

UNVENTED CIRCULATING HEATERS



Model 450

Nesco unvented circulating heaters provide quick, cheerful warmth at minimum cost. They are 100% efficient because there is no flue connection. Portable, too! Made in either adjustable burner control or metering valve control.



Model 410

Model 500
Model 510

Model 440

CONTACT YOUR NESCO DISTRIBUTOR OR WRITE

NESCO

Steve Division
270 North 12th Street, Milwaukee 1, Wisconsin

Model 400

How to Stage a TV Carnival

Thorough advance preparation, experienced supervision, ample advertising assure success in this detailed promotion

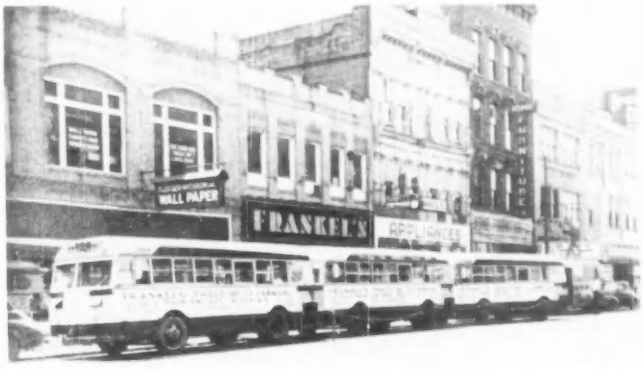
Left to right are Walter Rice, Philco sales manager, Tri-State Distributing Co.; Frederick A. Schwartz, merchandise manager and buyer, Frankel's; Arnold Irwin, Tri-State president; and Harold Frankel, president, Frankel's.

◆ Gives the right ingredients, mixing them properly, eliminating all the "guesswork," and adding the supervision of experienced personnel adds up to a "sure-fire" promotion that pays off in handsome dividends resulting from consumer sales.

This is the conclusion drawn by Frankel's Appliances of Huntington, W. Va., who have just completed one of the largest, most spectacular, and certainly one of the most profitable television promotions ever staged in this territory.

The sensational results tell the story. Within a three-day period following one of the most novel "teaser" campaigns ever initiated in the tri-state region, a total of more than 21,000 persons were attracted to a widely advertised

The photograph at left shows a portion of the crowd which gathered in the rear store interior prior to Frankel's popular TV show. The carnival drew 21,000 people over a three-day period.



Free transportation was provided to and from the store by busses making 18 trips daily over the three most-traveled bus routes in the city, between the hours of 10 a. m. and 3 p. m. All busses were colorfully decorated with signs advertising the event.

"Television Carnival" thus resulted in the sale of 403 units, including 353 television sets, 16 gas and electric ranges, 22 refrigerators, 12 automatic washers, and several home freezing units.

One month's preparation, coordinated by Merchandise Manager Frederick A. Schwartz and store President Harold L. Frankel, account for this successful venture which was staged by Frankel's in cooperation with the Tri-State Appliance Company, of Huntington. Philco distributors for the tri-state region of West Virginia, Ohio and Kentucky.

Pre-sale expectations called for an anticipated three-day attendance of 12,000 persons or, as estimated by store officials, an opportunity to contact 3,000 families. From this, a sales goal of 270 units, or three per cent of attendance, was envisioned.

How Advertising Was Handled

To reach this market, promotion-wise, Frederick Schwartz scheduled one of the most ambitious advertising campaigns ever staged by an appliance outlet in Huntington. Over 500 spot announcements were used over three radio stations and one television station. Newspaper ads, carrying in size from one-column by two-inch teasers to full-page spreads, consumed a total of more than 1,000 column inches.

Live radio and television shows direct from the store were arranged, featuring the finest entertainment available in the tri-state area. Over $10,000 value in gifts was distributed, including 6,000 orchids flown in from Hawaii for the ladies, 3,000 half pint pens for the men, rattles for the babies and such novelties as puzzles, toys, and jewelry for the children. (Detailed dealer aids for putting on this promotion are given by Frankel's at the end of this article.)

Arrangements were completed with the Ohio Valley Bus Company to provide free transportation to and from the store, with special "Frankel busses" running 18 trips daily over the three most traveled bus routes in the city. Use of these busses, colorfully decorated with signs advertising the event, was obtained for a flat fee of $200 and passengers rode free of charge — direct to Frankel's, of course.

Store hours were reshuffled for the event. Doors opened at 10 a. m. and closed 12 hours later, at 10 p. m. Ten salesmen were briefed on all phases of the promotion and well fortified with order blanks.

The entire promotion was staged as a means to introduce the 1951 Philco television receivers, with 19 models on display, including "dummy" sets displayed at the recent Philco dealer's convention in Atlantic City and shipped from Maine to Huntington by Tri-State Appliances.

Immediate delivery was guaranteed.

(Continued on page 103)

Consumer traffic during the promotion was routed through the entire interior of the store, including a trip by the radio and television salon, shown here. Note the excellent diversity of sets displayed.

EXPERIENCE IS THE BEST TEACHER

This ES Picture Story concludes a series of three articles based on the fundamentals of selling

by Lee Salsbery

◆ THE BEST WAY to sell is to sell. Experience is definitely the best teacher. That is why at the Electric Institute of Washington the salesmen themselves were given a chance to go on trial before a group of experts and sell. The constructive criticism offered by the experts was helpful to the salesmen in perfecting their methods of selling their products and in giving them confidence.

One attains experience only through preparation—by mastering all details and learning to manipulate easily the product to be sold.

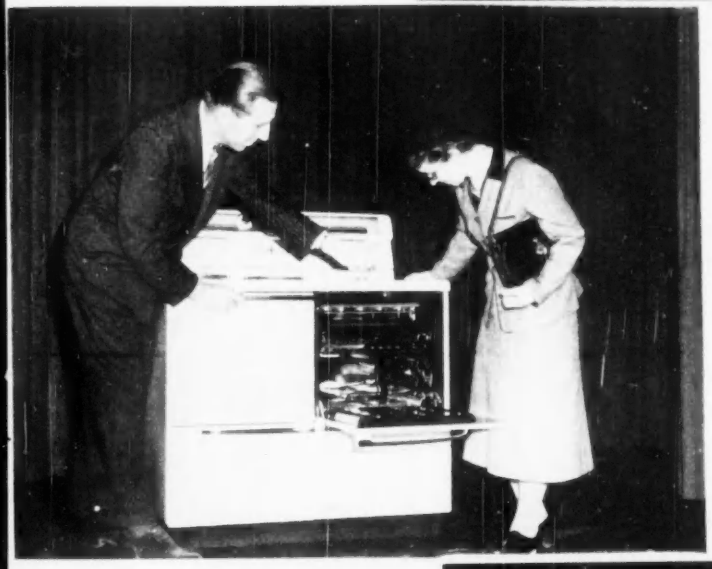
A salesman cannot rely on a set speech to completely cover even one situation. He must be versatile, able to fit his speech to the situation. The experienced salesman knows the power of short simple sentences, pithy, and to the point. If the salesman can give his line a humorous twist occasionally to apply to the particular situation, his wit may be the clinching argument in the case. In other words, it is creative salesmanship that sells the goods.

The experienced salesman also knows that the product is not sold until the wife is sold on the item. She must be convinced of the need for the product, of its eco-

1. **At the Electric Institute, salesmen go on trial to determine if they can sell the product successfully to a difficult customer. Here Whit Watkins, prosecuting attorney, points his finger at Everett Weaver, salesman, in the witness chair, while the customer, the defendant, looks on before the three judges. (Left to right, Whit Watkins, sales training director, Electric Institute; Mrs. Gabrielson, a customer; Everett Weaver, salesman with Dowd's Radio & Electric Co., Washington; Ferd Nauheim, direct mail consultant; Norman Barnes, sales manager, Potomac Electric Power Co.; and Waggie Lawder, general manager, Colonial Fuel Oil Co., Washington.)**

nomy, and of the pleasure and prestige that it will give. It is up to the salesman to prove its worth, always with the utmost courtesy to the prospective customer. He must provide the incentive for the purchase of his product. After establishing the need for the article, its economy and benefits, comfort or safety, the "pay-for-itself" and "low-operating cost" appeals should complete the sale.

The following pictures show how they do it at the Electric Institute.



Adjudged the best salesman by the judges, Henry Rossell is shown pointing out the advantages and features of the thrift cooker to a customer.

2.

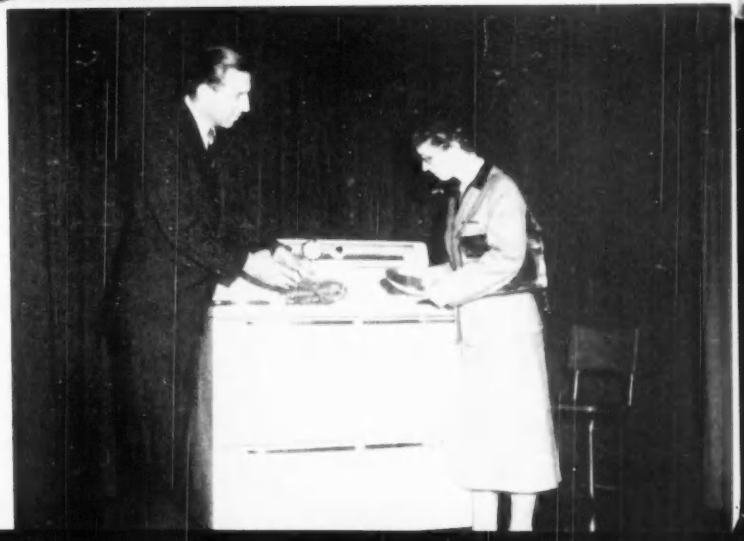
(Mr. Rossell is sales manager of the Washington Division of Graybar Electric Company.)

3.

Having opened the door of the oven, he continues to point out the safety features and economy of operating the stove.

Still showing the ease of operation and simplicity of cleaning the electric range, he persuades the customer to see for herself the advantages of his product. Get action! Let your prospect take an active part in the demonstration.

1.

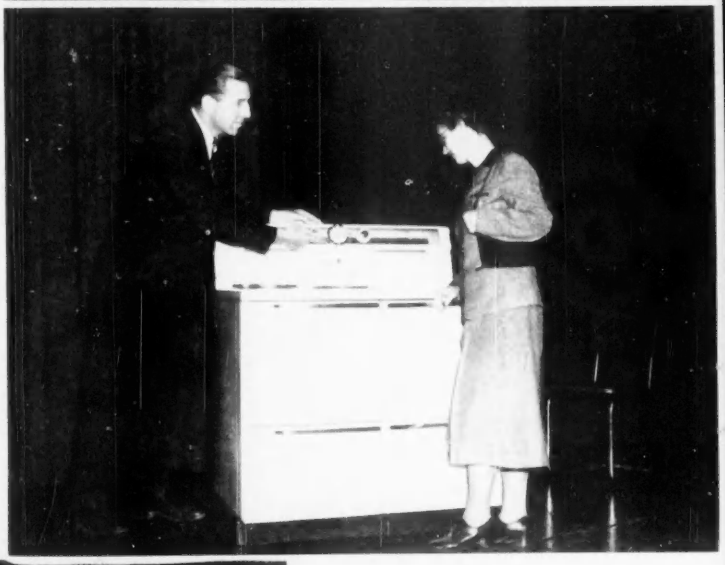


5. ▶

Maybe it's not cricket to peek at a customer's question list, but a good salesman nevertheless gets all the answers.

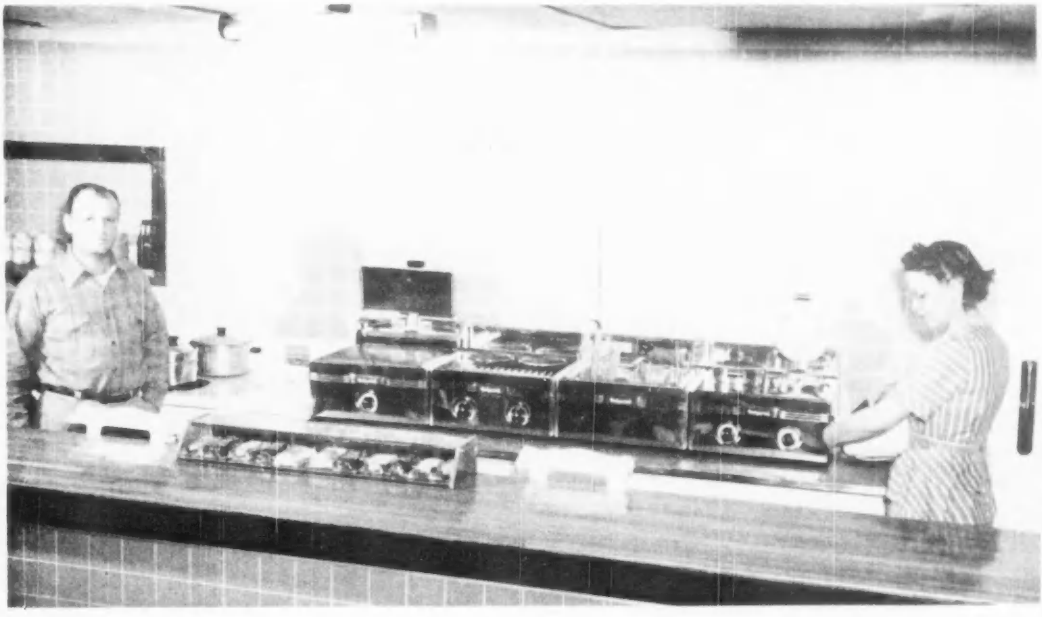
6. ▶

Often it is the little things that spell the difference between success and failure. Perhaps it is the value appeal that will convince this customer. "All these advantages—and with such low operating cost"! We think she is almost convinced.



Yes, the happy ending to the story. The customer is signing the check while our hero, the salesman, gives out with the "I won, Mom!" signal.

◀ **7.**



How to Promote Commercial Cooking

Switching cafe owners to electric equipment is a matter of getting trial installations

by C. Thomas

(Above) The interior of this Marionville, Mo., cafe shows a typical electric counter cooking equipment installation made by Empire District Electric Co., Joplin, Mo. "Speed and efficiency go hand in hand with electric cooking," claims Empire. This particular installation, one of their first, was photographed and used in Empire advertisements to acquaint others in their territory with the advantages of electric cooking. (Left) Ads such as this one were used as direct mail pieces and run in local newspapers.

◆ Salesmanager J. T. Jones, of The Empire District Electric Company, Joplin, Mo., hit the jackpot when he decided to put his major appliance salesmen on commercial cooking equipment.

"The sales have exceeded our fondest expectations by far," Jones said, "and we have made a lot of friends for ourselves along with it."

Three months ago there were practically no commercial accounts using electricity for cooking. Jones knew when he made his decision that he was inviting a lot of introductory work. But, by following a method he did not have to wait as long as expected to get into volume.

To begin with, Jones appointed L. L. Plunkett, one of the major appliance salesmen, to head up this new venture. Plunkett was sent to Kansas City and Chicago to learn what the manufacturer and distributor knew about merchandising counter-type commercial cooking equipment.

"I quickly caught on," said Plunkett, "that before I could sell cafe men on electric cooking, I would have to know something about the cafe man's problems."

The manufacturer's representatives made arrangements for Plunkett to see electric equipped kitchens that were putting out food to feed 25,000 people daily.

"I was amazed at the compactness and efficiency," said Plunkett. "But these operations had nothing in common with what I would find back home."

Another thing that impressed Plunkett was that these big operations knew down to a fraction of a cent what it cost them to prepare and serve a meal, a sandwich, or a cup of coffee. The daily breakdowns were there to see.

Back home, Plunkett quickly learned that local cafe men had no idea what it was costing them to get up a meal—nor did they have any idea what per cent of their cost should be charged against fuel.

Presenting electric cooking advantages, then, with break-down percentages was just a waste of time. When a man doesn't know, he can't be shown that he is wrong, or is making a costly error.

"We were satisfied from the start," said Jones, "that it would take time to switch cafe men over to using electric ranges, or fully equipping their kitchens with electric equipment. But we had to make a start."

A humble start ensued.

"We by-passed the big cafes," said Plunkett, "by-passed them deliberately."

Throughout Empire's territory there were thousands of small cafes, and few large ones.

"And the small operations," said Jones, "are more receptive."

The small cafe is usually limited for space. Often their cooking must be done in plain view of the customers. The neatness and compactness of electric counter units appealed to them.

"But they argued," said Plunkett, "that the units were too small to take care of their volume. They had always used bulky equipment and were convinced bulk was what they had to have."

The only way to get around this obstacle was to offer to install a piece of equipment on a trial basis. Let the cafe man sell himself.

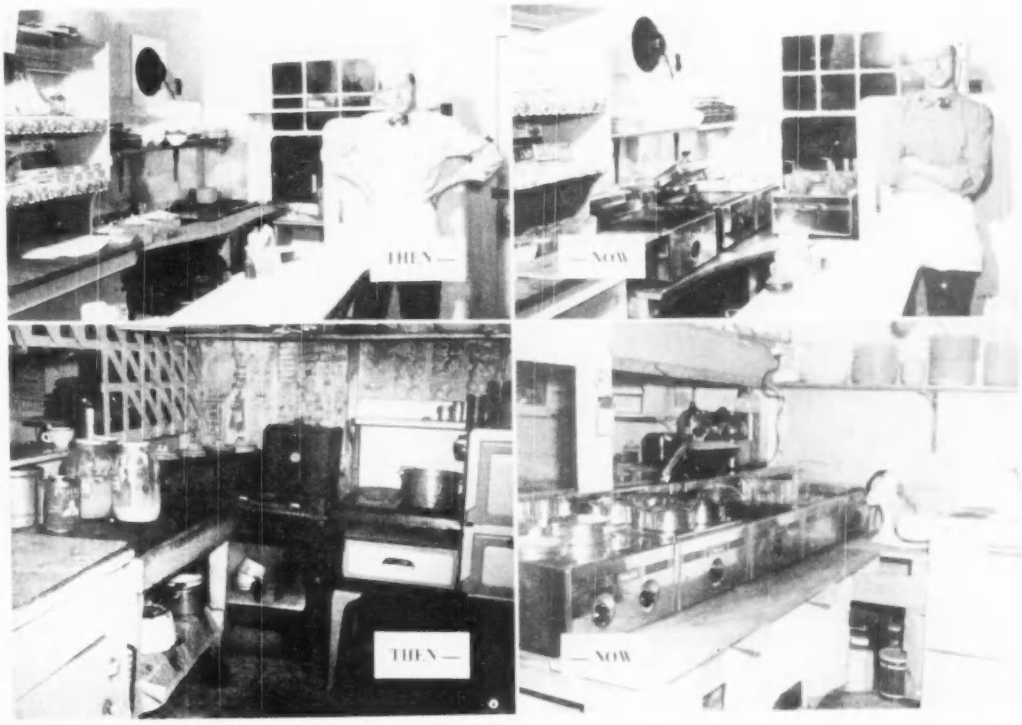
(Top) L. L. Plunkett, a major appliance salesman with Empire, was appointed to organize the firm's commercial cooking promotion. Big cafes were by-passed, as small ones were discovered to be more receptive. To overcome any objections the owners might offer, Plunkett brought out a piece of equipment on a trial basis, as he is shown doing here. (Bottom) Plunkett furnished all customers, at no cost, a placard advertising the fact that waffles are now being served.

How the Selling Job Starts

Plunkett has now worked his routine out. He walks into a small cafe. He asks the owner what type of fry kettle he is now using. It will be a flame-type kettle, maybe nothing more than an aluminum pan with a wire basket. Then Plunkett asks what temperature he maintains.

This the cafe man knows for a certainty, 350 degrees. Plunkett asks to take the temperature of the fat. It will vary anywhere from 200 degrees to 500 degrees. This amazes the cafe man.

This is Plunkett's cue to start telling the cafe man the advantages of controlled heat that only electric units can give. This re-



(Above) The top photos show a restaurant in Neosho, Mo., that has only nine stools and four small tables, and yet the owner has turned to all-electric cooking. The owner claims that he has been able to increase his capacity and his business by 60 customers a day — 25 per cent of his total volume. "Electric cooking means faster service, better food, and fewer unproductive hours spent in cleaning up," states the owner. (Below) These before and after shots show a vast improvement in the new installation at the right over the cluttered appearance of the kitchen at the left. Many small cafes like this one in Empire's territory have gone all-electric.

duces the cost of fats—often, in a hurry, during peak hours, the flame is turned up high, and the fat burns. This means the food has to be re-cooked in new fat or the customer gets food he doesn't come back for again. Every cafe man has had this experience.

Plunkett next gets out his literature and points out to the prospect that when using an electric kettle it will be possible for him to cook onion rings in one basket while making French fries in the other—and the potatoes will not absorb the onion odor.

This brings quaint smiles across the cafe man's face. He never knew it to be true, so it isn't.

"I have been with Empire for years," said Plunkett. "Every body around here knows me. They know I am no cook, nor cafe man. So who am I to be telling a cafe man anything about cooking?"

If more salesmen knew their position, they wouldn't get those insolent "It's fine, but we don't want any" rebukes. Plunkett asks the cafe man if he would be willing to take a fry kettle and use it. That they will do, though they are skeptical of its fulfilling the claims made.

Wherever one has been set in, none has been taken back. This is the entering wedge to install the next unit, usually a waffle unit.

Plunkett suggested that the owner of the Pullman Diner in Anderson, Mo., put in a waffle unit. Reluctantly, the owner agreed. (Incidentally, in a little Ozark town, before the war, this particular dealer stocked 147 different brands of cigarettes.) When he put in his waffle unit, he put a cigar box beside it. Every sale for waffles and sausage or bacon went into the cigar box.

"At the end of 30 days," he said, "my dishwasher asked me to empty it—the money was spilling over and he was getting tired of picking it up."

When the money was counted, he found he had $128.

"This is all extra business," he said. "I sell just as many, but take orders as I did before. Wait, that is my new customers."

Every place that has been equipped with these prepackaged counter units reports an increase in dollar volume.

For any dealer working an REA line, this is better than money in the bank. Every small

(Continued on page 103)

Actual demonstration of the washer is purposely not a complete one. It is intended to excite curiosity and the desire for a more complete showing later.

How to Conduct Washer Parties

Home service consultant provides sales force with abundance of prospects

by Sam Carson

♦ A NEIGHBORHOOD appliance dealer in Atlanta is ringing up a sales volume that many big operators in heavy-traffic downtown sections would envy. His volume has been climbing since May, 1949, when he started using saleswomen—and "wash" parties.

Dean Martin, of the Dean Martin Appliance Co., 517 Ponce de Leon Ave., will tell you modestly that his system provides his sales force with more gilt-edged prospects than they can call on. Then he will ask, "Do you know of any good trained saleswomen who can sell appliances?" It's all done, says Martin, with a capable saleswoman-home demonstrator and a "social" washer demonstration.

Advantages of Parties

The wash party is a simple and inexpensive method of washer promotion. It enables the neighborhood dealer to keep in closer touch with prospects in his residential area, and give him the opportunity to build long lists of live prospects at a small cost.

Here is how the Dean Martin wash party idea works:

A good prospect is contacted and the suggestion made that she invite to her home for an informal demonstration three or more of her friends who might be interested in purchasing a machine.

The washer is hauled to the home of the hostess, and the party gets under way in an informal, conversational atmosphere. The home demonstrator presents each guest with a suitable gift and the hostess with a special gift. (Martin is currently distributing an ivy bowl to guests and a luncheon set for four to the hostess.)

The actual demonstration of the washer is purposely not a complete demonstration. It is limited to showing the more dramatic features of the machine, exciting curiosity and the desire for a more complete demonstration later. It is suggested to the guests that greater wonders are in store for her who asks for a *complete* demonstration in her home.

Besides being a medium for on-the-spot sales, the washer party is fertile ground for new prospects. The informal nature of the demonstration allows for plenty of tip-laden conversation. The saleswoman-demonstrator has an opportunity to get background information on the appliance requirements of each guest and learns about prospects not present at the party.

The hostess usually serves refreshments, and requests each guest to register her name and address. This list furnishes a number of promising prospect calls.

Important Details

It is important, Martin emphasizes, that a *woman* conduct the home demonstration—whether it is for a party or for a single prospect. A housewife will usually take a woman into her confidence . . . she will discuss her homemaking problems with another woman before she will with a man. "That," says Martin, "is where we get a lot of prospects for other appliances besides washers."

Another type of party recently tried out by the Martin company also promises to be a sales builder. A "television party" was announced in local newspapers inviting interested readers to "come and bring a friend" to a television party at the store.

In addition to regular TV programs, the guests viewed a TV program on which satisfied customers of the store appeared. The program was sponsored in part by a Dean Martin washer distributor.

Results of TV Parties

The party gave salesmen an opportunity to acquaint guests with other types of home appliances, as well as television sets. Within a week the party had led to the sale of an automatic washer, an ironer, and a television set.

Keys to Martin's Success

But party-giving is not the only key to Dean Martin's success. The neighborhood appliance dealer hastens to add that the little things, too, have helped to open the door to new sales records. A sincere, smiling telephone voice, for instance, is one of those little things that make hundreds of friends for the store. And whenever a customer wants something outside the appliance line, Martin's salespeople are ready to recommend dealers in that line.

Whenever you start talking to Dean Martin about the personnel factor in his business, he will come right out and tell you that his thoroughly amiable and efficient home demonsrator, Mrs. Frances Bush, is responsible for a large part of the success of his washer party program.

Mrs. Bush is an appliance dealer's dream girl. She has the soul of a socialite and the brain of a saleswoman who is well versed in the lore of appliances. Nicely labeled as the Dean Martin "Home Service Consultant," Mrs. Bush has a way of letting the housewife know she is personally interested in the prospect's homemaking problems. Four salesmen complete the Martin sales staff.

Advice to Dealers

Dean Martin offers a bit of advice to the appliance man who is occasionally subject to "appliance dealer's fatigue"—that state, explains Martin, in which enthusiasm is replaced by plain laziness. His advice: "Go fishin', young man, go fishin'."

Unique merchandising stunt takes care of "slow movers" and stimulates over-all sales

"Dig for Gold"

◆ A CLEVER merchandising stunt which not only takes care of "slow movers" in the appliance inventory, but which has, at the same time, proven an effective means of stimulating over-all appliance sales has been developed by Gulf Furniture Store, Dauphin and Claiborne Sts., Mobile, Ala.

The stunt is the unique "dig for gold" promotion which the store staged recently. Under the plan, the store listed off a complete selection of appliances, furniture, etc., which had been on hand for quite a while, and invited Mobile residents to "dig for gold" in the actual sense of the word, to provide a down payment on refrigerators, ranges, washing machines, television sets and dozens of other appliances.

Under the "dig for gold" plan, the store placed on display a huge glass fish bowl full of nickels, dimes, quarters, and half dollars, just inside the entrance. Over this was arranged a canopy, blazoning the words "Dig for Gold," and explaining the system used. For three days previous to the "dig for gold" promotion, Gulf Furniture Company ran full-page ads in the *Mobile Register*, headed with a sensational banner line "Dig for Gold."

The way the plan was developed is extremely simple. As explained by the newspaper advertisements, all that was necessary for the customer to do was to enter the store and pick out the appliance she wished to buy. Then she would be escorted by her salesman to the fish bowl, invited to plunge her hand into the huge collection of coins, and to apply whatever amount she could clutch in a single handful as down payment on the purchase.

Copy in the newspaper ads explained, "This is the way you can dig for gold in the Gulf's fish bowl . . . the money you grab will apply on your purchase of $50 or more' . . . try your hand with the Gulf's fish bowl . . . it's filled to the brim with money and as much as you can get out in one hand, whether it is $5, $10, $25 or more is yours . . . to apply on the down payment of the appliances of your choice. Come in now . . . this offer will be good for one week only!"

Needless to say, the heavy newspaper advertising program and store display got immediate results, and hundreds of prospective customers streamed into the store. Each attempt by a customer to increase the size of his or her down-payment with a single grab brought a lot of interest from the assembled crowd, and all local newspapers gave the stunt considerable prominence in news pages.

The "grabs" ranged all the way from $6 to $18, and much merriment was occasioned when a petite tiny housewife came up with the largest amount to be clutched by any customer. Only a few "grabbers" behind, a burly traffic policeman came up with less than half that amount, which set off more amusement.

Needless to say, the clever stunt sold a lot of merchandise, but showed its principal value in publicity and free advertising, according to the Gulf store management.

"It is the most valuable advertising we could buy," a store

(Continued on page 163)

by Robert A. Latimer

Radio quiz program develops over 25 prospects per day

GETTING ALONG

♦ DEVELOPING A clever new form of radio show, which provides more than 25 bonafide prospects per day, is the means by which Charles F. Henry, and son, C. F. Henry, of Floridan Appliance Company, Tampa, Fla., have solved the "outside salesmen problem."

"We simply get along without any outside salesmen whatsoever," Mr. Henry, a veteran of 26 years of major appliance retailing in the western Florida city, stated. "Like most dealers, since the war, we have found that the maintenance of an efficient outside salescrew is one of the worst problems the dealer has to tackle.

"Good, skillful men, who will apply themselves to the job and produce results, are hard to come by—and training them, particularly where a rapid turnover of personnel is involved, is a highly expensive operation. Therefore, we have been searching continuously for the past two years for some form of 'substitute' which would do away with the problem once and for all, and show approximately the same results."

The solution which the two Henrys have developed is a novel radio "Kwik-Kwiz," which is presented five mornings a week, in the Tampa area. Designed to attract people to the beautiful Floridan store, one of the most handsome in the state, and located only a block away from the main shopping district downtown, the program emulates national quiz shows in that listeners are rewarded for telephoning in the correct answer to a daily question, propounded each morning.

The big difference, according to Mr. Henry, is the fact that the program is slanted directly at bona fide prospects, who actually want new refrigerators, ranges, washing machines, home freezers, or other appliances. All of the prizes which are awarded are 10 per cent credit on the purchase of any new appliance in the store.

"In this way only those home-

The advertising done by the Floridan Appliance Co., Tampa, Fla., dispensing with the need for outside salesmen, brings prospects into the store. The job has only begun, however, for that means that the firm must have an attractive store, both interior and exterior, as the appearance itself then must help do the selling job. The interior shown here has been so designed as to lead the prospect down the rows of white appliances and by the uncluttered shelves of electric housewares.

owners who are sincerely in search of new appliances will take the trouble to respond," Mr. Henry said. "Of course, this cuts down the number of entrants which we receive daily, but it has the all-important feature that each name taken in represents a prospect to whom we can actually make a sale."

The "Kwik-Kwiz" is a five-minute show which is presented at 9:55 each morning. One question is asked per day, and 10 minutes are allowed for responses by listeners. As pointed out, all of the prizes, five of which are given away daily, are 10 per cent credits on the purchase of any appliance.

Questions asked are usually of novelty interest, such as "Do rats swim?," "What is the oldest community founded in the United States?," etc. Except for propounding the question, the announcer on the show spends his time in describing the Floridad store, its complete appliance lines, and inviting listeners to call H-2812, which is the Floridad trunk telephone number.

Results have been surprising, according to Mr. Henry, who exhibited a large leather-bound ledger book in which each day's responses are entered. The name and address of every person who gives an answer is taken, before any acknowledgment is made of the winning answer and all of these are transferred to a single dated loose-leaf page, with the description of the wanted appliance added as well.

Each page of the book, which extends back several months, shows between 20 and 30 entries, with a red line denoting a sale which has been accomplished.

Charles L. Henry, right, and his son, C. F. Henry, left, have developed a novel radio "Kwik-Kwiz," which produces nothing but hot sale prospects, according to them. The show does the same job as a crew of doorbell-ringing outside salesmen, claim the Henrys.

WITHOUT SALESMEN

The fact that there are many red lines on each page, indicates that the "Kwik-Kwiz" show does the same job as a crew of doorbell-ringing outside salesmen.

"It is surprising how well mere telephone selling, or the sending out of one of our four regular floormen to follow up on a lead works out," Mr. Henry smiled. "For example, we sold four appliances to one woman, who had won only a 10 per cent down payment on a single appliance. There have been a lot of multiple purchases made in this way, inasmuch as we are certain that every entrant is actually concerned enough about the purchase of a new appliance to attempt to capitalize on the 10 per cent offer."

In addition to notifying the winners, Floridan Appliance Company also sends out a "consolation card" to every entrant, with the store's greetings and condolences on failure to win in the contest. With a message, "We would have been much happier if you had won," the card is bound to get attention, and the courtesy of acknowledging the entry goes a long way.

A steadily increasing number of entries per day indicates that the program is getting far more attention, Mr. Henry believes. Its cost, he pointed out, is less than a single large-scale display newspa-

(Continued on page 102)

This striking window display contains 12 refrigerators, each a different model, filled with artificial foods. During evening hours, a bulb is kept burning in each one, even though the rest of the store's lights are out.

Don't forget that there is more to management than buying for less and selling for more . . .

by Arthur Roberts

Keep Your Business Machine in Good Order

◆ The electrical dealer who has a clear conception of the scope of business management has a better chance of survival than the dealer who considers business management only a matter of buying for less and selling for more.

This misconception is common among businessmen who focus all efforts on trade transactions and forget that there are other factors that they must manage as efficiently to make a satisfactory profit.

Elements of Management

Business management embraces budgeting, cost control, sales control, business analysis, and competent financial supervision.

If you are weak on any of these elements of business management you won't get maximum results. They all mesh like the teeth in a gear. You know what happens to an automobile when one or more teeth are stripped from the timing gear. The same thing happens to business management if any of the five teeth in the gear that governs its operation are missing. An examination of these teeth will be helpful.

1. Budgeting is planning. Nobody else can plan the future of your business but yourself. All you need to know are a few simple fundamentals. You set up a budget in reverse. First, total your operating overhead, the normal overhead for your business, which levels off to a fairly uniform outlay from period to period.

Whether you do a dime's worth of work or keep the business operating at capacity, this is what it costs you to keep the doors open. So, it is your job to see that you get enough business in to cover this overhead and net a satisfactory profit.

Once you have determined the overhead figure, you can arrive at the sales volume with little trouble by getting the average margin from your experience figures. If the operating overhead is $25,000 and you average a margin of 33 1/3 per cent on sales, you must do $75,000 to break even. From this break-even point, you begin to make a profit.

The figure you set for sales over $75,000 is yours to choose. Don't make it too high to discourage effort nor too low to make effort unnecessary. Break down your annual budget on sales, cost of sales, and overhead expense to monthly totals based upon experience figures showing the relative results for the different months. You can plan month to month, for a whole year, or any part of a year—but plan. Check your budgetary estimates against actual results each month to determine how near you have come to your planned figures.

2. Cost control. Many dealers consider sales direction a matter apart from cost control; others assume that sales control is the leader and that cost control follows master. It is the other way around. Sales control is based upon cost control. The wise dealer will have costs always forefront in mind when planning sales campaigns or when supervising the routine selling chores. Those dealers who do not follow this practice often find themselves with a satisfactory volume but unsatisfactory profits.

A Basic Precaution

Before a businessman sets a selling price on a product, he must base this price on its cost to him from the supplier, plus a markup that will cover overhead and net profit. Otherwise, any success he has is just a handout from Lady Luck, and Lady Luck is a fickle hoyden. But, even a profitable price may not prove profitable on over-all volume if that volume is not enough to exceed the break-even point on costs.

The wise dealer plans his budgetary volume on this break-even point and takes steps to see that volume exceeds it in sufficient degree to earn the profit he desires. Cost control is really at the wheel of a business today although sales control is put in the driver's seat by most businessmen.

This happens because they are dominated by volume; they are not profit-minded; and they assume that if they get the volume the profit will take care of itself. Past experience in times like these shows that this is a "pathe-

tic fallacy." Volume does cover many inefficiencies, but it is never the sole arbiter of profit. That is the role of cost control.

Every dealer should have a broad profit strategy, but that strategy should not be mapped out for action until costs are studied. If he does not make effective use of cost control today, all his attempts at sales control go awry.

The dealer must get back his "money sense," lost during the war, and, in many instances, not retrieved since. During the lush years money seemed as cheap as falling leaves in autumn, costs went sky-high, and few tried to effect economies. They couldn't be bothered with such small change.

Extravagance in government has set up a chain reaction in the average dealer's mind against economy: the excess profits tax of war years and the cost-plus contracts put a premium on spending; "a penny saved is a penny earned" became a myth; and cost control became a nuisance.

The dealer must start now to revive penny-watching, the control of little loss-leaks that belittle profits. In the long run, big surpluses spring from the little day-to-day savings made here and there. Even the owner of a gold mine gets his wealth in little nuggets. Business wealth is seldom the result of a sudden cleanup, rather it is the sum total of little savings or profits accumulated through the years.

3. Sales control. Just as experience figures are an aid to cost control, the sales results over prior periods are an aid to sales control. Based on these results, the dealer should break down his budgeted sales volume to quotas for the individual salesmen if he employs more than one. This is just the starting point.

He must keep tabs on results by means of sales reports to see that his men are making enough calls per day, that they are getting enough interviews to calls, that they are making their call-backs promptly, and that the ratio of sales to prospects interviewed is satisfactory.

The dealer should pace his

(Continued on page 101)

Eliminate Needless TV Service Calls

This check list of "What to do before calling the TV serviceman" is being distributed by the Electric Institute of Washington to its dealer and service company members. The seven suggestions cover the causes of most needless TV service calls. The space below is left for the dealer or service firm to imprint his name and address. The Institute supplies the cards in quantity to its members as part of its co-operative service.

"Before You Call Your Television Serviceman . . ."

The following suggestions have been compiled by the Television Committee of the Electric Institute of Washington to enable you to obtain quicker restoration of programs on your television set.

Check the following list of suggestions:

1. If the set is completely dead, is the line cord plugged into the electric outlet? If the cord is plugged in, unplug it and try a lamp in the same outlet. If the lamp lights try the set when plugged in again.

2. Look at the antenna wire on the back of the set. Make sure the leads are firmly connected to the terminals on the set and that the bare leads are not touching each other.

3. If the sound is normal, but you have no picture, turn the brightness control full on and also try another channel.

4. If the picture is normal, but you have no sound, adjust the "fine tuning" control with the volume control turned full on. Also try another channel.

5. In suggestions 3 and 4, if only one channel is affected, allow the station time to announce any technical difficulty which might have occurred.

6. If sound is normal and picture tube has light with the brightness control full on, but the picture is rolling, tearing out or no picture on all channels, adjust the "horizontal hold" or "vertical hold" controls. Try reducing contrast or picture control.

7. If sound is weak and noisy, and the picture has excessive snow, see if the antenna is still installed in its original position.

After following these seven suggestions, if the trouble has not been corrected, call your service dealer.

FILE WITH YOUR TELEVISION SERVICE CONTRACT

News Roundup

Southern Dealers Take Top Prizes

◆ Southern appliance dealers have proved to be stiff competition in several national merchandising contests. The Television Company of Maryland, of Baltimore, won first prize recently in a nation-wide television dealer contest sponsored by the Allen B DuMont Laboratories, Inc.

Southern dealers also took the first and second prizes in a national contest sponsored by Hotpoint, Inc. They were Frankel's Appliances, Huntington, W. Va., and Floridan Appliance Company, Tampa, Fla. More than 13,000 dealers throughout the nation were eligible to enter the contest.

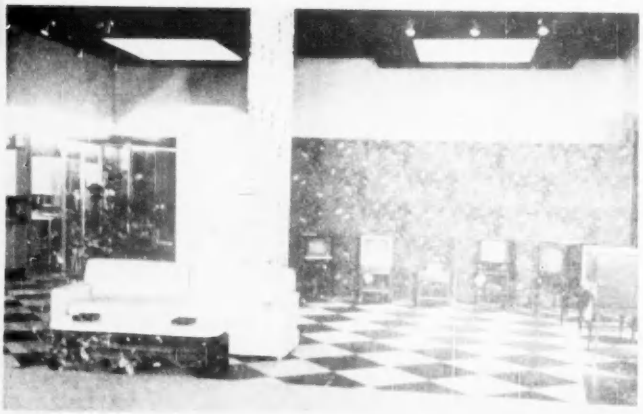
In a window display contest sponsored by Easy Washing Machine Corp., Kaufman Straus Co., Louisville, won first prize in the National classification, while the second national prize went to Kirven's, of Columbus, Ga.

The highlight of Frankel's open house was a television show in the store that attracted more than 2,500 persons. An estimated 28,000 saw the show on television. Entertainment was provided by a group of tap dancers, singers, a hillbilly rendition, and other featured acts hired for the occasion.

Gifts for the audience were pressure cookers, coffee makers, a bicycle, sandwich grill, and a table model radio. The promotion resulted in a good increase in sales. The day following the show two complete kitchens were sold, as well as a record number of ranges, washers, and smaller appliances.

The Floridan Appliance Company used floor and window decorations. Direct mail activities were expanded, and radio and newspaper advertising were used to call attention to the event. Recipe guides and Disposall pencil sharpeners were given to store visitors. The promotion resulted in a new prospect list of more than 1,000 names, and a sustained sales increase of 30 per cent.

In Baltimore, Mayor Thomas D'Alesandro presented a 1950 Cadillac car, first prize in the DuMont dealer contest, to Milton Rabovsky, president of the Television Company of Maryland. The company's promotional effort on the 19-inch Hanover receiver was judged the most outstanding in the nation in competition with more than 2,500 DuMont dealers.



This new ultra-modern display room of Shobe, Inc., Memphis distributors of television, radio, and appliances, contains daylight fluorescent lighting concealed in sectioned deep louvers, and adjustable spotlights, from a long line overhead, which can be trained on any product on display.

Shobe Dedicates New Building

◆ The gleaming new building of Shobe, Inc., Memphis, a fast-growing wholesale distributor of television and radio receivers and appliances for the home and office, was formally dedicated recently at 1195 Union, with an "open house party" for retail dealers in Memphis and a surrounding five-state area.

The new Shobe, Inc., establishment—which fronts on Union at the corner of Pasadena and extends a full block back to East Parkway—has been called one of the most modern and beautiful establishments of its kind in the South, with its 43,000 square feet of floor space.

All merchandise in the new building of Shobe, Inc., is displayed upon the sales floor just as it is designed to appear in the home or office. Here P. Y. Blackwell, a kitchen specialist for Shobe, is shown pointing out the features of an actual kitchen to a customer.

The highly modern display room in which the lines of merchandise the company wholesales are displayed is 100 feet wide by 40 feet deep, with handsome terrazzo floor and movable partitions which can be shifted, like stage scenery, to provide no less than 52 different arrangements for attractive displays.

All merchandise is displayed upon the sales floor just as it is designed to appear in the home or office.

Immediately behind the display room are the offices of the company, completely air-conditioned and strikingly modernistic.

Just behind the office is the store's auditorium, complete with

stage and curtain and theatrical lighting designed for sales meetings and similar purposes. The auditorium has seats for 140 persons, but, if desired, its chairs with their red leather upholstery can be removed to provide space for banquets.

On the auditorium's stage is an ultra-modern kitchen, of the type that Shobe, Inc., distributes, which can be used for actual cooking demonstrations by home economists.

Just behind the general offices, with its own entrance on Pasadena, is the company's parts department. Thousands of parts needed by service men are neatly arranged for quick and easy accessibility, with a minimum use of customer time.

Behind this are two service and repair departments—one for radios and television and the other for electric appliances—which are manned by highly skilled technicians.

In the rear, and occupying approximately half of the block-long building, is the company's big warehouse and shipping department which has its own entrance, together with truck loading dock on Eastmoreland.

Kalamazoo Announces New Sales Policy

♦ Inauguration of a distributor-dealer sales policy with district representatives to be located at various centers throughout the country has been announced by Robert Mercer, newly appointed sales manager of Kalamazoo Stove and Furnace Co.

William Allen of Birmingham, Ala., has been appointed regional manager to cover Georgia, Alabama, Florida, Mississippi, Louisiana, Tennessee, and Kentucky. W. H. Armstrong of Memphis, Tenn., will be southwestern manager covering Texas, Oklahoma, Missouri, Kansas, Arkansas, New Mexico, Arizona, and Colorado.

A further appointment will be announced shortly, of a regional manager with headquarters at Washington, D. C., to cover the rest of the South.

R. E. Mercer

Installment Credit Controls Back Again

♦ In a move to head off further inflation, the Federal Reserve Board on September 18 invoked Regulation W, the old wartime measure for controlling consumer credit.

The regulation, in general, applies to any person (business) engaged in the business of extending installment credit in amounts of $5,000 or less. Under terms of the ruling, dealers already operating on tight credit terms won't feel much effect, but dealers using easy credit as means of attracting customers may experience some loss of business. Charge accounts at this time are not affected.

Once again dealers who offer installment terms must file with the Federal Reserve Bank or branch in their district a statement on a form obtainable from that agency. And, as in the past, business men must keep complete records of each transaction, such records being subject to inspection by the Federal Reserve Board.

Down payment and terms prescribed for some of the "listed articles" are as follows: appliances including stoves, refrigerators, radios, television sets, and other heavy items require a 15 per cent down payment with the balance due in equal payments over a period of 18 months; furniture requires a 10 per cent down payment with 18 months to pay the balance; residential repairs, alterations, and improvements require a 10 per cent down payment with the balance payable over a 30-month period.

In arriving at the maximum maturity of an installment obligation, the dealer may use any date not more than 15 days following the actual date of delivery and the first installment payment will be due not later than one month from that date. The installment payments, except in the cases of persons with seasonal incomes, must be arranged so that payments are of equal amounts and due at equal intervals not to exceed one month.

Where the dealer accepts in good faith a "statement of changed conditions" he may allow the buyer to refinance his obligations over a maximum period of 24 months.

In the case of persons with seasonal incomes, such as farmers, the schedule of installment payments may be adapted to the customer's flow of income, within certain prescribed limitations.

Where an item (such as a refrigerator) is delivered for trial or approval, either the return of the item or the necessary down payment is required within 10 days.

The ruling does not apply to listed articles having a cash price of less than $100, and to certain other business transactions. (Example: any credit extended to a wholesaler or retailer to finance the purchase of any article for resale is exempt.)

Dealers, of course, have the right "to refuse to extend credit or to extend less credit than the amount permitted by this regulation or to require that repayment be made within a shorter period than the maximum permitted by this regulation."

NAFM Names New Officers

♦ The board of directors of the National Association of Fan Manufacturers, Inc., at a meeting held in Detroit recently, elected officers for the ensuing year.

New president of the association is E. E. Trickler, vice-president of the New York Blower Co., Chicago, Ill. Edgar Wendt, president of the Buffalo Forge Co., Buffalo, N. Y., is the new vice-president, and L. O. Monroe the new secretary-treasurer.

Arvin Announces Advertising Program

♦ "The biggest advertising program in all Arvin history" has been announced by Arvin Industries, Inc., to its distributor and dealer organization. The program will be concentrated on the com-

pany's 1950-51 sales drive on television and radio sets.

A 24-page "Fall and Winter Merchandiser" points out that Arvin ads in 16 national magazines will make 265 million "sales calls" during the next four months. Ninety-one ads are scheduled to appear during a 17-week period which began in mid-September. Twenty-two advertisements in half-pages and full-pages and two- or four-colors will be used to announce nationally the company's 1951 line of 14 TV receivers. *Better Homes & Gardens*, *Life*, *Look*, *Newsweek*, *Saturday Evening Post*, and *Time* are carrying this schedule.

Another series of 17 national advertisements will publicize Arvin's radio line consisting of 37 models including the new 3-speed phono-radio combinations and the recently announced Hopalong Cassidy table model set. Leading magazines will also be used basically in this campaign. The radio ads are in black-and-white, two-colors, and four-colors. All are half or two-thirds pages.

A representative list of trade publications will be employed during this four-month period to keep distributors and dealers up to date on models, prices, features, and selling helps.

Arvin's Merchandiser also announces to the distributor and dealer the immediate availability of a new series of three-, four-, and five-column newspaper ad mats for local use on both the TV and radio lines. It urges accelerated local activity to back up the factory's national advertising program.

A section of the new portfolio describes the dozen new sales aids Arvin is now making available at cost to the trade. Included in these promotional pieces are an Arvin salesmaker for mass display of radio and TV sets, illuminated signs, streamers, banners and cards.

Easy Dealers in Display Contest

◆ The Easy Washing Machine Corporation has released the names of the 106 dealers who split up a $15,500 prize melon in its Summer Window Display Contest.

Kaufman Straus Company, of Louisville, and Ernst Hardware Company of Seattle took first honors—$500 each—in their respective classes, besides each winning $300 in their zone competitions.

Kirven's, of Columbus, Ga., one of 1949's first national prize winners, came in a close second this year. The other $300 second national prize went to Wright Electric Company, of Elmira, N. Y.

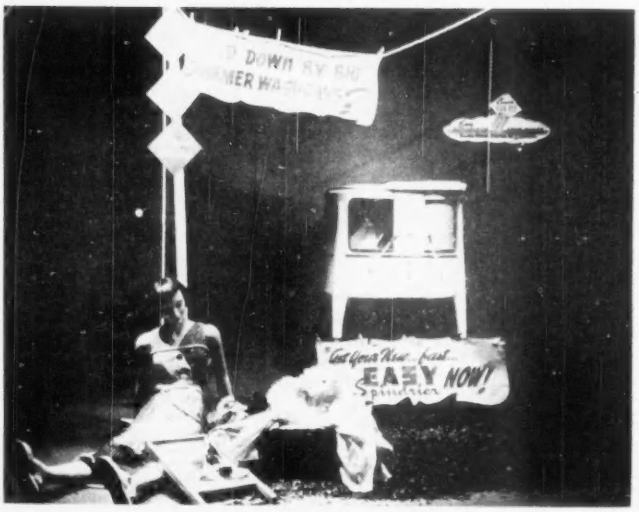
Held June 12 to 24, the contest drew 2,245 photograph entries. Designed to spur summer washer sales, it was called by W. H. Reeve, vice-president in charge of sales, "one of the most successful merchandising campaigns in our history, in terms of both dealer co-operation and sales."

The 13-piece free display package that served as springboard for the contest was based on the theme, "Don't be Tied Down by Big Summer Washdays," which had strong appeal for customers and display-minded dealers alike.

A bigger-than-life cutout of a housewife tied to a clothes pole

This two-panel stopper of Kaufman Straus Co., Louisville, Ky., won the $500 first national prize (Class I) in the Easy National Window Display Contest, and the $300 first prize in Zone III, Class I. Display man J. Morgin used glamour cleverly to get full concentration on merchandise.

A $600 winner with this striking display in Easy's National Window Display Contest — second national prize (Class I) and first prize Zone 4, Class I — is Kirven's, of Columbus, Ga., winner of the first national prize in 1949.



was the star piece of the package, and was featured in most of the windows. The idea was considered such a "stopper" by some dealers that they used manikins and real clothes poles.

Easy dealers were divided into two classes to equalize competition: (1) utilities department and furniture stores, from which classification 769 entries were received, and (2) appliance stores, hardware stores, and all other outlets, who submitted 1,476 entries.

Deepfreeze Plant Nears Completion

◆ THE NEW Deepfreeze refrigerator plant being built west of Lake Bluff, Ill., 2½ miles south of the present North Chicago home freezer plant, will be completed on December 1, 1950, according to L. J. Sorensen, vice-president and general manager of the Deepfreeze Appliance Division, Motor Products Corporation.

Motor Products Corporation, since January 1, 1950, has been selling refrigerators, electric ranges, and electric water heaters as a new line. All of these products have been manufactured by other factories on a contract basis.

"The new refrigerator plant is a continuation of our expansion policy taken by the company toward making all of its own products. A $5,000,000 refrigerator parts plant was recently completed in Marion, Ohio," the Deepfreeze executive said. Administration offices will be maintained in North Chicago for the time being.

New Distributors and Agents Appointed

◆ APPOINTMENT OF two new distributors for Du Mont television receivers has been announced by Ernest A. Marx, general manager, receiver sales division, Allen B. Du Mont Laboratories, Inc.

Rowles Sales Company, 533 Delaware St., San Antonio, Texas, are new Du Mont distributors in San Antonio. Second new distributor is the Modern Appliance & Supply Company, Inc., 403 Washington Ave., New Orleans, La., for the New Orleans area.

Buford Myers is president of Modern Appliance & Supply, and T. H. Wilke is television sales and advertising manager.

Both new distributors will soon show the complete new line of 1951 Du Mont receivers. They are now receiving applications for dealer franchises in their respective territories.

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The Graybar Electric Company, Inc., Richmond, Va., has been appointed a distributor for Crosley major appliances, television and radio receivers. W. A. Blees, vice-president of Avco Manufacturing Corporation and general sales manager of its Crosley Division, announced recently.

Vacuum Cleaner Sales Show Increase Over 1949

◆ FACTORY SALES of standard-size household vacuum cleaners in the first half of 1950 showed 15.8 per cent increase over the same period in 1949, aggregating 1,695,178 units compared to 1,463,100, according to industry-wide figures announced recently by C. G. Frantz, secretary-treasurer of the Vacuum Cleaner Manufacturers' Association.

Sales in June were 20.6 per cent higher than in June, 1949, totaling 250,390 compared to 207,354 units, and were down 10.2 per cent from 278,645 vacuum cleaners sold in May.

INSPECTING CAPEHART'S 1951 LINE — Open house held at Atlanta's Georgia Distributors for three days recently revealed Capehart's 1951 line. Shown looking over one of the new combination sets are, left to right, Lewis W. Reynolds, Capehart-Farnsworth representative for Georgia, Tennessee, Alabama, and Florida, and Harry H. Hurt, president of Georgia Distributors. Mr. Reynolds is the newly appointed manager for Capehart-Farnsworth's Atlanta region, according to E. Patrick Toal, director of sales. A veteran of many years experience in the radio and appliance field, Mr. Reynolds has been affiliated with General Electric Supply Corp., Majestic Radio & Television Corp., Bell Aircraft Co., and Tennessee Electric Power Co.

Graybar, which also maintains a sales branch in Norfolk, Va., takes over the territory formerly covered by Louis O. Bowman, Inc., Richmond, Va.

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New distributors named by White Products Corporation for their Water Hutter lines of electric and gas automatic water heaters include Wholesale Electrical Supply Co., Inc., Anderson, S. C.

THE STANDARD Transformer Co. of Warren, Ohio, announces the appointment of the A & A Supply Co. with offices at Albuquerque, N. M., and Abilene, Texas, as its representative for the state of New Mexico and northwestern Texas. The complete line of transformers for distribution, power, metering, testing and street lighting will be handled through the A & A Supply Co.

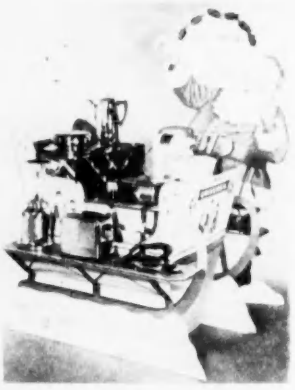
Silent Salesmen

Universal — Christmas Displays

Two individual displays, which can be used as a single unit or split up as preferred by the dealer, are being made available to dealers by Landers, Frary & Clark, New Britain, Conn., manufacturers of Universal electric housewares.

One of the displays features a 64-inch Santa Claus in bright Christmas colors printed front and back, to face either right or left in either a window or beside a merchandise island or table display.

The second display is a merchandiser sleigh, 41 inches long, 42 inches high, and 38 inches deep, decorated in cheery Yule colors. It holds merchandise on top and along the sides and catches shoppers' eyes whether in the window, laden with electric housewares, in the store aisle, or on a low platform in the appliance section.



This 64-inch Santa Claus combined with the merchandise sleigh can form the nucleus for a profit-producing Christmas display of electrical housewares.

Westinghouse — Laundry Sales Aids

A personalized direct-mail advertising and prospecting program for Westinghouse laundry equipment dealers and a 44-page booklet emphasizing the demonstrate-to-sell theme are now available from Westinghouse Electric Corp., Mansfield, Ohio.

The folder describing the direct-mail program contains samples of three mailing pieces. The first piece does a selling job on the new Westinghouse Laundromat and Clothes Dryer. Exclusive features of the Laundromat and clothes dryer are included in the second mailing piece, and the third mailing piece reviews the important features of these two appliances.

The demonstrate-to-sell booklet explains how the dealer can promote successful Laundromat and clothes dryer demonstrations at store parties and at home parties. Detailed plans are given for organizing and presenting parties with the use of ads, displays, radio spots, and direct-mail pieces. The second section of the booklet is a catalog of advertising mats, product mats, glossy prints, radio announcements, demonstration pieces, and other promotion material available to dealers.

Leader — Sun Lamp Display

The Leader Electric Co., 3500 N. Kedzie Ave., Chicago 18, Ill., now is shipping its new portable fluorescent sun-lamp with a die-cut, multi-colored counter and window display. It is cut-out and scored to fit snugly around the lamp so that floor or street traffic sees not only the sun lamp but also a printed recap of its advantages. This sturdy display piece is so designed that the lamp rests on the base, thus giving it rigidity.

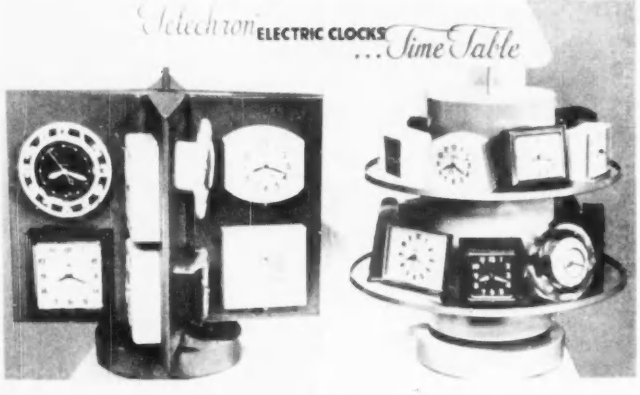
A sample of this new display is available to dealers on request. Copy on it reads in part: "Get a quick tan. Enjoy beneficial ultra-violet rays. Re-

Telechron — Revolving Clock Display

A dramatic setting for Telechron's expanded electric clock line is two compact display units being made available to dealers through Telechron distributors.

Each of the two revolving "time tables" can show 16 clocks. The one at the left in the illustration shows Telechron kitchen clocks; the one at the right has alarm and "convenience" clocks. Combining action with beauty, the leaves and glass shelves of the time tables will revolve at a touch.

Telechron Inc., features this novel dealers' aid as part of an intensive merchandising campaign that introduces seven new models, led by the Everset, an alarm clock that resets automatically.



Each of these two revolving "time tables" will show 16 Telechron clocks. The display at the left features kitchen clocks, and the right one convenience clocks. Leaves and glass shelves of the time tables will revolve at a touch.

Names and Faces

George M. Douma, has been named sales manager for the Electric Housewares Division of the **John Oster Manufacturing Co.**, as announced recently. Mr. Douma was former sales manager for the Electrical Division of Nesco, Inc.

In making this announcement, **John Oster, Jr.**, executive vice-president of the firm, noted that the company has divided its sales management activities into two separate operations with **R. F. Maresh** as sales manager for the Barber and Beauty Supply Division and the Specialty Products Division functions he has performed with the firm for the past 25 years.

Mr. Douma had been associated with Nesco for the past six years, and formerly served with Butler Brothers for more than 10 years handling promotional activities and sales. He originally entered the appliance field as a jobber's salesman in Michigan.

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W. C. Conley, sales manager of the Coolerator Company, has announced the appointment of **H. C. (Hi) Beresford** as advertising and sales promotion manager for the **Coolerator Company**.

Mr. Beresford was the first advertising and sales promotion manager for Coolerator. For the past five years, Mr. Beresford has been sales manager of the Home Appliance Division of the Murray Corporation of America. While at Murray, he was chairman of the marketing and product development group.

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Steve Brodie, right, sales manager **Manning Bowman and Company**, toured the southern sales territory recently. With him, at left, is **John F. Hebb**, of Jacksonville, Southeastern district manager for Manning Bowman.

Mr. Brodie joined Manning Bowman in May, 1950. He was formerly sales manager for Bruno-New York, Inc.

John F. Hebb, Steve Brodie

HALLICRAFTERS OPEN HOUSE — Approximately 300 dealers with their service men and salesmen attended the two-day open house held in Atlanta recently to introduce the 1951 line of Hallicrafters radio and television. Henry Burwell, Southeastern manager for the Hallicrafters Company, at left, looks over one of the new models with Thomas M. Nash, sales manager, Hopkins Equipment Company, Atlanta. The model shown is No. 860 featuring a 17-inch black rectangular tube, AM radio, and 3-speed record player. Present at the open house were Charlie Nesbitt, sales promotion and advertising manager, and William F. Bidinger, field engineer, both of the Hallicrafters Company.

O. A. Sutton, president of the **O. A. Sutton Corporation**, Wichita, Kan., has announced the appointment of **Fred Kaths** as manager of advertising and sales promotion. Mr. Kaths assumes direction of Sutton's national advertising programs and of all sales promotion activities.

Fred Kaths

To his new post, Mr. Kaths brings both actual field experience as a district sales manager in charge of the Southeastern area, the position which he took over when he joined Sutton in 1947, and administrative and sales promotion experience at the Wichita factory. Before joining the Sutton organization, Mr. Kaths served for five years as a Procter and Gamble field representative.

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G. F. Forsthoefel, president of **Revere, Inc.**, Deerfield, Mich., manufacturers of the Chill Chest line of home food freezers, announces the appointment of **Carl L. Wallace** as general manager in charge of all manufacturing activities.

Mr. Wallace, prior to joining Revere, Inc., was production manager for the Norge Division of Borg-Warner Corporation and formerly held supervision for Mac Donald Brothers, Boston, a management consulting firm for all branches of industry.

•

G. F. Keeton has been appointed manager of field sales for **American Kitchens**, **F. F. Duggan**, general sales manager of the **American Central Division-Avco Manufacturing Corporation** has announced.

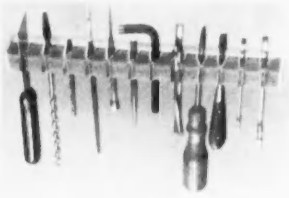
Mr. Keeton, who has recently been vice-president and general manager of Tele-Appliance Company, wholesale distributors in Wichita, Kans., will supervise distribution activities and coordinate activities of American Kitchens field selling organization, Mr. Duggan said.

Mr. Keeton will make his headquarters at the American Kitchens plant in Connersville.

Product Parade

Tool Holders

SELF-ADJUSTING tool holders, through use of sponge rubber and aluminum, are the latest convenience for industrial shops, hobby benches, and home use. These holders are produced by the R. K. Products Company, Dept. E-2, 731 S. W. Front Ave., Portland 4, Ore.



The new holders are capable of holding firmly an amazing variety of objects. They are ideal for keeping wrenches, drills, punches, knives, brushes, etc., within handy reach at all times, preventing tool damage and loss.

The constant grip and prompt release that make Grasp-all unique are provided by sponge rubber cubes boxed securely in aluminum shoes which run on an aluminum channel base. Grasp-all holders are available in 11½-inch lengths, 12 stalls for $1.49 postpaid.

•

Portable Sewing Machine

ANNOUNCEMENT of the Sewmatic Portable Electric Sewing Machine has been made recently by Eric Products Company, Park Ave. Bldg., at Detroit, Mich.

The new, precision built portable, which features a streamlined, simplified, modern design, will retail for $49.95. An attractive finished type case is available at extra cost. The Sewmatic will be made available to dealers throughout a nationwide dealer organization.

The manufacturer asserts that the portable represents the first major advance in sewing machine design in the last 100 years. Moving parts are completely enclosed in an aluminum housing, with only the sewing head and attractive plastic flywheel exposed. Total weight of the machine is 11½ pounds.

Powered by a universal motor which meets both domestic and foreign current characteristics, the new machine makes an elastic stitch with a single thread, and each stitch is individually tightened. There is no bobbin. Tension control is automatic, regardless of the thickness of the fabric. Sheer nylon or the heaviest upholstery materials are handled without adjustment.

Speed of the machine is governed by a variable speed foot control, which operates against a slight spring tension, like an automobile accelerator. Despite the light weight, the machine is balanced so it will not "creep" when in use.

Other features include a built-in light and self lubricating bearings which require no oiling. The "looper," which makes the stitch, is precision cast of "Vitallium," a hard stainless chrome alloy. All moving parts are mounted on a rigid center arm which does not get out of adjustment. The machine carries a 5-year warranty.

•

Floor Machine

A NEW, lightweight floor machine will be made available to appliance and hardware dealers by Multi-Clean Products, Inc., 2277 Ford Parkway, St. Paul, Minn.

Designated "Be Lite 12," this new floor machine can be used for scrubbing, waxing, polishing, and steel wooling all kinds and types of floors in homes, schools, offices, stores, restaurants, apartment buildings, institutions, and other small or medium-size establishments.

In addition to direct sales for this item, the machine is suitable for a rental machine which even the inexperienced operator can use for refinishing floors and for normal housekeeping functions. It has been designed to virtually eliminate the need for any repairs, even under the most severe conditions of abuse sometimes encountered with rental equipment.

•

Kelvinator Home Freezers

A NEW LINE of home freezers engineered to provide more interior capacity within cabinets smaller than most models, has been introduced by Kelvinator Division, Nash - Kelvinator Corp., Detroit 32, Mich. The new line includes six-, nine-, 12- and 20-cubic-foot models, all chest-type.

Kelvinator stated that the nine- and 12-cubic-foot models currently were the most popular sizes, with the six-foot model best suited for the smaller family and the 20 for the large estate or rural home.

All models have flat tops, which may be used as work surfaces. Models FL-6, FR-92, and FR-122 have push-button lid-locks. Projecting handles and hinges are eliminated, so that all dimensions are true cabinet dimensions. Each Kelvinator cabinet will pass through a standard doorway without disassembling the freezer or damaging the home. Insulation on all models is sealed-in with a moisture-proof compound.

•

Electric Griddle

A NEW family-size electric griddle, the Grill-King, that grills, fries, and toasts, has been announced by International Appliance Corp., Metropolitan & Morgan Aves., Brooklyn, N. Y.

The portable griddle plugs into any a-c electric outlet, and is easy to stow away and light-weight. A spout at one end drains grease as it accumulates. Twelve hamburgers or eight toasted sandwiches can be accommodated at one time.

•

G. E. Clocks

AN ELECTRIC alarm clock which automatically resets itself to sound off at the same time every morning and an ultra-modern kitchen clock with raised numerals are among nine new clocks announced by the General Electric Co., Bridgeport, Conn.

Called the Repeater, the new automatic alarm is designed to awaken sleepers who arise at the same time each day but who sometimes forget to set the alarm before retiring. It can

also be reset or shut off like a conventional alarm. The Repeater is encased in mahogany with gold-colored bezel and chocolate-brown numerals.

The new kitchen clock, the Gourmet, has a circular case with bold raised numerals for maximum readability from any point in the room. It is available in four color combinations: red and white, green and white, white and red and yellow and white. Both dial and bezel are chromium trimmed.

•

Advertising Cartoons

SOMETHING NEW in the business of advertising electrical appliances is a series of ads built around the cartoon technique. It points out, in a humorous fashion, the benefits enjoyed by using an electrical appliance, or the discomfort suffered by not having one.

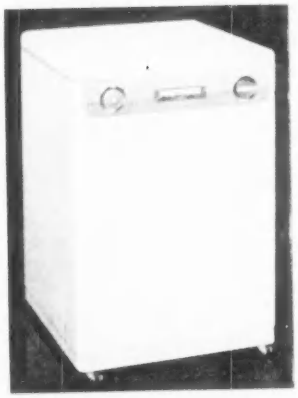
The idea behind this campaign sprang from the success of the "Adequate Wiring Cartoon Advertisements," produced by Allen & Reynolds of Omaha, Nebr., and now being used by nearly 600 utilities and contractors. Drawn by Harry Walsh, one of the nation's leading advertising cartoonists, this appliance series has caught on quickly and is already appearing in 18 states.

A booklet illustrating the program is available without charge simply by writing Allen & Reynolds, 1300 Woodmen of the World Bldg., Omaha 2, Nebraska. The complete set of 24 mats is economically priced.

•

New Bendix Line

A COMPLETE new line, including two new Tumble Action washers, two new Agitator washers, two new dryers, and a new ironer, has just been announced by Bendix Home Appliances Inc. South Bend, Ind.



Featured in the new line is the Duplomatic washer, which sells for less than some wringer washers. It automatically washes the clothes, automatically drains itself, and automatically squeezes clothes damp dry. All the housewife does is put in the water, soap, clothes, and set a dial.

Illustrated here is Duplomatic Model N, featuring a porcelain top, counter-balanced lid, and bright new cabinet styling. This semi-automatic requires no plumbing and no installation. It requires no bolting down because there is no high-speed spinning. The Wonderdial remains unchanged and still carries a written five-year warranty. Suggested retail list is $169.95.

The new automatic dryers match the washers. Sales features include simple single dial control and the Pow-R-Vent which keeps room temperatures normal because it exhausts warm air and moisture outdoors. New infused styling features the new chrome trim surrounding the porthole. The electric dryer carries the suggested retail list price of $229.95.

•

Hand-Type Electric Cleaner

A HAND-TYPE electric cleaner, suitable for vacuuming auto interiors, upholstery, and hard-to-reach places, is being offered distributors by the special products division of the Hoover Company, No. Canton, Ohio. It is designed to retail for $24.95.

The Negro Dustette, as it is called, weighs slightly over five pounds, complete with 16-foot hose and cord, and stands 6½ inches high. Color scheme is brown and beige. The die-cast aluminum nozzle has a brush fastened to it with a metal band, and mounts a rubber furniture guard.

The motor is of the universal type and the five-bladed fan is of die cast aluminum. It is 4¼ inches in diameter. The slide button type switch is fully insulated and mounted on a recess at the top of the handle. The bag is of heavy woven cotton twill with a three-inch mouth for easy emptying. A rubber covered steel nose shrouds bumper suitable for protection on the walls of dust is included.

•

G. E. Television Line

THE NEW television line manufactured by General Electric Co., Syracuse, N. Y. has 13 models in table, console, and combination units, all with mahogany veneer or blond wood cabinets and with picture tubes ranging from 14-inch rectangular to 24-inch round.

Nine engineering developments have been added to the basic chassis in the new line to further improve reception and picture quality.

The line consists of two table models with 14-inch rectangular black tubes, two consoles with 14-inch rectangular black tubes, two table models with 16-inch rectangular black tubes, one console with 16-inch rectangular black tube and mahogany veneer cabinet, one console with half-doors and a 16-inch rectangular black tube, two custom combinations featuring 16-inch rectangular black tubes with aluminized screens, 3-speed phonograph for automatic operation of all size records, and FM-AM radio, two consoles with half-doors and 19-inch round black tube with aluminized screen, and the world Model 24C101, in mahogany color with the 24-inch aluminized screen black round tube.

•

Automatic Washer and Dryer

A NEW automatic electric clothes washer and an automatic electric dryer have been announced by Frigidaire Division of General Motors, Dayton 1, Ohio.

A feature of the washer is a lock-lock panel which houses the controls. The most important new operating feature is an improved timer control, the Select-O-Dial, which, it is claimed, makes the washer completely automatic yet fully flexible. Another new convenience is an automatic signal light that shows when the washer is operating. When the complete washing, rinsing, and spinning cycle is completed the light flashes off to remind the housewife that the clothes are clean, damp-dry, and ready to be removed.

Companion appliance to the washer is a new automatic electric clothes dryer, produced in two models, one 115 volts and the other for 230 volts. Variable temperature control is provided by a new Heat Selector which can be set at low, medium, or high. Thus the housewife can select the correct heat for various types of clothing, including fragile fabrics and heavy canvas alike.

Another feature is a new Ozone lamp

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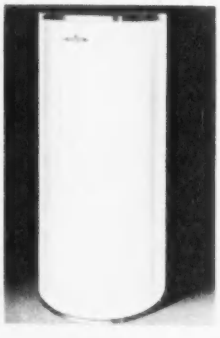
in the drying compartment. The 115-volt model requires only a simple plug-in connection to an appliance outlet on one of the regular house lighting circuits.

•

Electric Water Heater

A FULLY-AUTOMATIC water heater with a 52-gallon tank capacity, the Model 250 Superflex, is the first electric water heater of the Perfection Stove Co., 7600 Platt Ave., Cleveland 4, Ohio.



The Model 250 has two Chromalox immersion-type heating units—the upper, 1,500-watts, and the lower, 1,000-watts. Each unit has a separate thermostat permitting setting to the water temperature desired. The two thermostats can be set up for interlocking or simultaneous operation at the time of installation.

Designed for easy installation and servicing, the wires of the Model 250 are color-coded, two convenient doors permit easy servicing of the thermostats, and an access opening is provided in the top for installing a pressure-temperature relief device to comply with local codes as required.

This electric water heater requires no flue, and can be installed anywhere where there is a 220-volt line nearby. A scientifically-designed cold water baffle and special heat trap prevent waste of electricity, thus making the heating of water economical.

•

Frigidaire Refrigerator

FEATURING a freezer chest and triple-cold, and ice-blue styling of more expensive models, a new 7.4-cubic-foot master refrigerator with a suggested cash price of $249.75 has been added to Frigidaire's household refrigerator lines, manufactured by Frigidaire, Dayton 1, Ohio.

The large freezer chest, which extends from wall to wall across the top of the cabinet, will hold over 30 pounds of frozen foods. There are two single and one double-width Quickube ice trays with a capacity of 56 cubes or eight pounds of ice. Below the Super-Freezer chest is a full-width plastic Chill Drawer for meats, ice cubes and other items.

This new Master model provides extremely flexible storage facilities. There is a total of 15.1 square feet of shelf area in the food storage compartment, plus the 1.78 square feet in the freezer chest. Cold moist storage to keep fruits and vegetables crisp and fresh is provided in two porcelain-finished sliding Hydrators with a combined storage capacity of 18½ quarts.

Other features include the Cold-Control, porcelain-finished interior, automatic interior light, and leveling glides.

•

Electric Deep Fryer

THE "Fry-O-Matic," an automatic electric deep fryer, has been put on the market by Dominion Electric Corp., Mansfield, Ohio.

Complete automatic control prevents overheating and keeps shortening and oil at proper cooking temperature. Any food that can be deep fried can be easily and quickly prepared, according to the manufacturer, and it may also be used to prepare other foods.

The round, seamless aluminum cooking chamber is easily cleaned, as there are no corners in which grease can conceal. The fryer has four-quart capacity, and will hold three pounds of shortening or oil.

Other features include an automatic control which can be set at the desired temperature, Chromalox steel-clad element, wire basket rest on the edge of the fryer, and a faucet which quickly drains liquid from the fryer.

•

Vaporizer

A LOW-PRICED, 10- to 24-hour vaporizer, room humidifier and deodorizer is now being marketed by Electric Steam Radiator Corporation of Paris, Ky.

The new 1951 Model Electrosteam "10 to 24 Hour" has the safety of a remote water reservoir. The water in

the reservoir never comes in contact with the heating element, and there is never more than 1½-ounces of water in the heating unit. Should the vaporizer be accidentally tipped over, there is no danger of scalding burns. An added safety feature is the automatic safety shut-off, which cuts the current when all the water has evaporated. The unit can be kept operating all night long with absolute safety.

Two models are available. The "Standard," with a plastic base, retails at $5.95. The "De-Luxe," with a ceramic, satin-finish aluminum and chrome plastic base, retails at $6.95.

•

Drill and Tool Set

A new 3-pitch electric drill and accessory kit is being introduced by Forco Industries, Inc., Rochester, N. Y., by means of three unusual combination offers.

Offer No. 1, including the 3-pitch drill 21-piece accessory kit and 4-inch portable circular saw, is specially priced at $29.95, a saving of $7.45 off the actual retail value of $37.40. Offer No. 2, consisting of the drill and kit without the saw, is priced at $24.95, a saving of $5.50 off the actual retail value of $30.45.

A previous handy drill price comprises Offer No. 3, and is marked down to $9.95, a saving of $2.00 off the actual $11.95 retail value when purchased together with either of the above two offers.

The drill is a premium-built, quality tool designed specifically for the home and craft market, with a recommended capacity of ¼-inch in metals and ½-inch in wood. Among its premium features are the Jacobs geared chuck, double reduction gearing for smooth, vibration-free operation, and the heavy-duty motor. Retail price of the drill separately is $27.50.

•

Upright Cleaner

A new vacuum sweep electric cleaner has been put on sale recently by The Hoover Company, No. Canton, Ohio.

The Model 29, as it is called, is designed to sell in the medium-price range—$87.95. Cleaning tools are $19.95 extra. It has an attractive gray and maroon finish of durable, hammer-type

smart NEW package to help you to quick profits

Everhot
AUTOMATIC ELECTRIC BLANKETS

ONLY
EVERHOT
HAS THE
Comfortrol

Beautiful gray plastic exterior with on-and-off switch and large temperature selector dial. All component parts mounted on shockproof metal. Each dial position is automatically illuminated. Adjustments can be made by sight, sound or touch *in the dark*.

Cat. 922—72" x 86" Dual control, full size blanket. Warmth of each half of blanket may be regulated separately if desired. Retail price $49.95.

Cat. 921—72" x 86" Full size blanket. Single Comfortrol. Retail price $42.95.

Cat. 923—66" x 86" Twin size blanket. Single Comfortrol. Retail price $39.95.

• •

All models available in Desert Rose, Jupiter Blue, Berkshire Green.

With exclusive new Therm-o-loom ... an entirely new blanket textile, luxuriously soft ... a joy to launder

● Something new—something beautiful to add fresh eye appeal . . . keen customer acceptance to the always popular Everhot electric blankets!

Here's a package to stop traffic when used for window or counter displays. A package that shows the product to advantage . . . will help you to quick, profitable sales. Has sharp gift appeal . . . handles well for delivery . . . It's all ready to help you break previous fall electric blanket records! For early delivery on Everhot electric blanket line see your Everhot distributor, or write or wire us. The Swartzbaugh Manufacturing Co., Toledo 6, O.

SINCE 1884 **Swartzbaugh**
OF TOLEDO

enamel and features high efficiency and performance.

The cleaner will operate efficiently and easily on all types of carpet. A foot-operated handle control enables the handle to be locked vertically in storage position, placed in operating position, or pivoted down so it will pass easily under low furniture.

Other features include the quiet-type agitator with 11-degree helical brushes and beater bars, wide angled dirt-finder lamp, and non-marking soft plastic furniture guard.

The fabric dirt bag is equipped with a newly developed plastic bag frame which is molded in one piece. The new frame can be stepped on by the operator in emptying dirt from the bag without damage, and the hinged areas can be flexed thousands of times without breaking. It also provides an excellent dust seal at the top of the bag when it is closed.

A newly designed bag ring is so designed that fine dirt can be removed from the bottom of the bag. It has ears on which the operator can step while shaking out the dirt.

The complete set of cleaning attachments includes the new light, pliable Veriflex hose and the right-angled plug-in tool connector, which makes for easy towing of the cleaner when going over upholstery and draperies. The set also includes two aluminum extension tubes, floor brush, dusting brush, furniture brush, crevice tool, and mothumizer.

•

G. E. Fall Radio Line

The new fall line of radio receivers, announced by General Electric Co., Syracuse, N. Y., gives the consumer a wide choice of models, colors, features, and prices.

The line includes radio clock-radios, seven AM table receivers, a super-sensitive AM-FM table model, and four radio-phonograph consoles. Plastic table models with various features are available in bleached and dark mahogany, porcelain white, alabaster ivory, congo brown, and Persian red. Three consoles and one table model are in mahogany veneered cabinets and one console in blond Korina.

Prices range from $19.95 to $49.95 for the table receivers, with the combinations listed from $169.95 to $279.95. (all prices eastern list).

Dual-beam tuning is featured in three leader models at $19.95 in the straight AM table units, and the consumer has a choice of colors at no extra cost. A traveling beam of light spotlights the station numerals as the dial indicator is turned.

•

Automatic Coffee Maker

A new automatic coffee maker will be introduced this fall by Canfield Manufacturing Company, Grand Haven, Mich.

The only work on the part of the user is to put in the proper amount of water and coffee. There's a selector to choose the kind of coffee the user likes—from very mild through the medium ranges to very strong. A red light flashes to tell when the coffee is done to taste.

When finished, the coffee is automatically held at approximately 170 degrees temperature until the last cup is consumed no matter how long it stands. The mechanism automatically resets itself for the next coffee-making task. Coffee is never boiled (a practice which coffee experts say ruins the brew) and never re-percolated.

•

Du Mont TV Models

Seventeen new television models including 10 with the new 17-inch glass rectangular tube have been introduced by Allen B. Du Mont Laboratories, Inc., and three additions to the Du Mont 19-inch line were also announced.

Leading the new Du Mont receivers is the 19-inch Westminster, including television on all channels, full range AM and FM radio, three-speed record player, and an automatic tape recorder. The tape unit records from all Westminster entertainment services in addition to regular microphone recording. Twin track recording makes it possible to have one hour's uninterrupted playback.

An innovation in television receivers is the inclusion of an automatic selector clock, by which programs for the entire evening can be set with the receiver turning both on and off automatically. The selector clock can also be used to set recording of any of the Westminster's entertainment services.

The line brings to the public the development of the 17-inch glass rectangular tube with its 150-square-inch direct-view picture. A feature of this tube is the use of a single magnet beam bender by means of which the beam is bent only once. This makes a sharper image.

The short length of the new tube, 18⅝ inches, has brought about cabinets of shallower depth in these new models.

•

Thermostat and Heater

Portable, automatic electric heat without special wiring or expensive equipment can now be quickly provided in many places in the home, office, factory or farm, claims Edwin L. Wiegand Co., 7600 Thomas Blvd., Pittsburgh 8, Pa., manufacturers of a new Chromalox pin-up, plug-in thermostat and new Chromalox Deluxe heater.

The thermostat controls the heater within a range that covers higher temperatures needed in sickrooms, nurseries, and other parts of the home to low temperatures for just preventing freezing in milkhouses, pump houses, etc.

The prongs of the heater plug are inserted in a series adaptor plug on the thermostat cord which in turn is plugged into any 115-120-volt outlet. No more effort is needed than plugging in a floor lamp and with a total weight of only 8¼ pounds, the thermostat and heater are easily carried from room to room.

For manual operation, the heater switch knob is conveniently located on top.

Both heater and thermostat cords are rubber-covered, making the heater safe for laundry, milkhouse, and similar damp locations. Both are listed by Underwriters' Laboratories, Inc.

The list price of combined heater and thermostat is $33.85. Display and direct mail materials are available for use by dealers. For more information write Edwin L. Wiegand Company.

Your Business Machine

(Continued from page 89)

salesmen's coverage with sales promotion, direct mail and newspaper advertising. He must consider a profit-sharing plan, bonus, or sales contest to increase incentive. He should hire only competent men who are willing to work hard to earn more, he must utilize a practical sales training program and hold sales meetings to keep in touch with the problems of his salesmen and keep the salesmen in touch with his plans.

Selling Techniques

All this may seem quite comprehensive to the reader who has spanned the seller's market with a minimum of selling technique, but in the buyer's market he must improve his brand of salesmanship if he is to earn maximum profits. Of course, much depends upon the size of the sales force; nevertheless, if the dealer has only one salesman, he should keep in close touch with his operations so that he knows what he is doing and can give him counsel or assistance if necessary.

Hiring a salesman, giving him a list of prospects or a territory for cold canvass, and then considering him entirely on his own is not good sales direction and it won't produce the best results. Adequate sales control goes the whole route from hiring a man to helping him "milk" the most out of his territory.

Alternate Figures

The larger dealer, when planning his selling activities, should set up a budget for costs and profit in more than one volume range; the ratios change with an increase or decrease in volume because of the fixed element in overhead. These alternate figures will help him know what to do in case of a sudden change in volume levels upward or downward.

Industrialists prepare for such changes that may be ahead, perhaps sudden changes, by working out alternate plans for profit. Study your business now to find out what the relationship of sales volume and fixed and variable expense will have to be for required profit in a number of profitable future volume ranges.

4. Business analysis. Unless you analyze your operating figures frequently, all your effort to manage efficiently will be of no avail. General observation may indicate that a business may be ship-shape; but when you dig into your operating figures, you will usually find enough defects to make business analysis very profitable. Your accounting system must be accurate and adequate to analyze business results properly; not only financial accounts but your costing records, particularly in the service department.

5. Competent financial supervision. You need money to operate. If you do not handle your affairs so that your working capital is in good ratio, you won't have enough cash on hand to meet your obligations; and so, you must borrow to pay them. This means an added expense for interest, and the necessity of selling more volume at no profit.

Many dealers are earning no more than 5 per cent net profit today, and so, the interest on a $2,000 loan at 5 per cent, $100 a year, means that you must sell $2,000 more in goods or repair service and make nothing on them because your financial supervision got out of control for the time being.

Long-Term Loans

Borrowing short-term loans for current obligations requires a lot more sales work to meet the interest expense. Dealers should never borrow long-term loans to meet current obligations. Such loans should cover only expansion or other fixed asset acquisitions.

Collections is a phase of financial supervision. If you are lax on collections, you won't get your money in on time and you will be short of working capital to pay

HELP WANTED

Viking Air Conditioning Corporation, an AAF manufacturer, is looking for an established agent to represent them in the State of Louisiana, Miss., and Western Tenn. Man must have following among electrical appliance, electrical specialty jobbers, and hardware buyers to sell window fans. Send full particulars to 5631 Walworth Ave., Cleveland 2, O.

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ELECTRIC

WATER HEATERS

ADACAR MFG. CO.

NAPIER FIELD

DOTHAN, ALABAMA

Visible Results
Quickly
WHEN YOU DEMONSTRATE
Viking
WINDOW FANS . .

. . . with a LONGER MARGIN for EXTRA PROFITS

Viking
AIR CONDITIONING CORP.
5601 Walworth, Cleveland 2, O.

your own bills. Dealers must be as efficient on collection control as on sales control or cost control. The easy-money days of the seller's market are gone. Bad debts are increasing. When you plan to sell, plan to collect.

Business always needs promotional energy. If you do not continuously promote your business for betterment you won't forge ahead. You'll idle on the same spot and then go into reverse. Business never stands still. It either goes ahead or falls behind. That's why it is necessary to set aside an appropriation for promotional expense every year.

But some dealers do not do this because they are bad financiers in one way or another. Our experience has been that too many dealers consider advertising or other promotional effort an unnecessary evil that they tolerate when they are flush and throttle when business lops off. This is just the time when they should load both barrels and go gunning for sales.

The financial statement covering your business ownership is a tip-off to your financial sagacity. Have you invested too heavily in fixed assets, which is weakening your working capital position and forcing you to pass due dates on your obligations? High fixed assets mean high fixed expense for upkeep. Modernization and expansion are desirable, but it isn't wise to exceed your financial capacity on this betterment, which should be carefully planned just like other elements of business management.

Will your funds be ample to liquidate current loans or will you have to renew them? Bankers prefer the businessman who pays when the money is due. You can go back and borrow the next day, but the banker wants to see the color of green on the due date.

Are you heavily mired in fixed liabilities, usually mortgages? Have you used current loans to pay off your fixed liabilities or to incur them? Current loans should be used for current debts or you may get into financial difficulty later.

Do you keep adequate control of inventory by means of stock control cards or periodical counts so that you do not over-invest in the "carry," so that you invest in items that turn profitably and do not have too many shelf-warmers and obsolete items in stock? At 5 per cent net profit, a $100 loss on inventory represents the net on $2,000 volume. And you can lose a lot more than $100 yearly on inventory if you don't watch it carefully.

Is the return on the capital invested in your business better than the return you can get for the same investment outside the business? If it isn't, then you are not getting a satisfactory return on your invested dollars because you are not financing your business wisely regardless of the net profit on sales. This net may show a satisfactory percentage but it isn't the last word in effective business management. The return on capital investment or net worth gets the laurel wreath.

If you are wrong on one or more of these important phases of financial management, you can't do an adequate job of business control because competent financial supervision is an important tooth in this master gear of your business machine.

Doing Without Salesmen

(Continued from page 87)

paper ad per week, and the results are tremendously in excess of this form of advertising.

"The most important thing to us is that it furnishes us with a constant stream of worth-while prospects whom we can follow up by telephone, letter, or personal call, if an appointment can be made," he stressed. "Many of the customers whom we have sold in this way are those whom we could not contact otherwise, and often, sales have been accomplished on the same day in which a prospect entered the 'Kwik-Kwiz' race."

Included on the "consolation card" is always an invitation to visit Floridan Appliance Company, and meet Mr. Henry and his son. Visitors to the store are shown through the marble glass showroom to look over their complete line. One of the most impressive stunts which Mr. Henry

has utilized in connection with display is to show no less than 12 refrigerators, stocked with more than $150 worth of artificial foods, along the street side of the building.

The 12 models represent one sample of each model manufactured by the line the company handles and the fact that they are crammed with artificial meats, fruits, vegetables, dairy products, etc., has a striking effect on passersby. During the evening hours, even though the rest of the store's lights may be out, a bulb is kept burning in each refrigerator, which excites a lot of curiosity from long distances away, and helps to awaken interest from the theatre crowd.

"Dig for Gold"

(Continued from page 85)

spokesman indicated, "inasmuch as a lot of prospective customers who had never before visited the store streamed in to witness the drawing. Most important, we feel that we accelerated appliance sales to numerous homeowners who in the past have been 'on the fence' as to intended purchases, waiting for prices to go down, waiting for monetary windfalls, etc."

During the week of the "dig for gold" promotion, the store sold off all "shelf-warmer" major appliances, enjoyed a record volume of sales in washing machines, refrigerators, and home freezers, and through keeping the store constantly crowded with well-wishing visitors, feels it has made many friends for later sales.

Commercial Cooking

(Continued from page 83)

cafe along the highway now using flame heat will welcome the commercial electric cooking salesman with hugs and kisses.

As was mentioned at the beginning of this article, it was thought that it would be a long haul to reach the point where commercial-size electric ranges could be sold in Joplin. But at this moment, perhaps, Jones is anxiously awaiting the arrival of some of these ranges that the customers have asked for, deciding to go all-electric.

By the accompanying pictures, it will be easy to see the type cafes that were first approached. With few exceptions, only small cafes have been sold.

Seemingly, these counter units were designed expressly for their need. But the cafe man can't be sold; he must be allowed to sell himself as described here.

Until the cafe man uses the units, there is no way to offset the fact that electric cooking costs more. He has to learn by direct experience that the extra cost is saved in food, time, etc.

The average small cafe man is no man for figures or abstract or intangible thinking. That is why he dispenses food for a livelihood.

Through advertisements, you can see how Empire made use of their first installations to acquaint others in the territory. These ads were used as direct mail pieces and run in the local newspapers.

"In the first two and a half months," said Plunkett, "we have made some 60 installations that include, in most cases, a fry kettle, waffle unit, food warmer, and one or two griddles."

These units, average around $100 each, and the sale of a commercial electric range will follow up most of these installations.

TV Carnival

(Continued from page 77)

anteed on five of these 19 models. The bulk of the sales were made on the 16-inch open face table model retailing at $269.95 and the "Consolette" 16-inch tube model, retailing at $299.95, both in mahogany finish.

Consumer traffic was routed to the rear of the store, where they received free gifts before following a one-way routing that insured their viewing the entire interior of Frankel's appliance department before entering the radio and television salon. One of the surprising results of the promotion was the volume done on stale merchandise, including off-

Economaster

A Great Name For Outstanding Value —

— offers you an electric heater that need only be displayed to assure you increased sales and higher profits this fall and winter.

Economaster heaters are tried and proven. No other heater offers more in customer satisfaction. Here is high quality at economy prices with nearly a million satisfied users.

Write today for full information and name of your nearest distributor.

Model D
1250 Watts - 115 Volts AC DC
Easy to sell at $9.95

ECONOMASTER SALES, INC.
128 8TH AVENUE NORTH
NASHVILLE TENNESSEE

Faster Sales!
Larger Profits!

with

FASCO

Automatic Kitchen VENTILATORS

● *For Ceilings and Inside Walls*

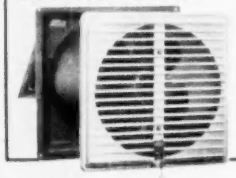
FAN UNIT

FAN AND OUTSIDE WALL CAP ASSEMBLY

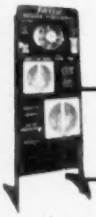
Mounts anywhere . . . in ceilings . . . or through cabinets . . . or in inside wall, directly above stove.

Models 1020-1021 (10") "Ceil-N-Wall" Ventilator

● *For Outside Walls . . .*



Models 844-846 8" 1044-1046 10" Automatic Outside Wall Ventilator



● They move *more* air, *faster*, for *less* money! *And . . .* THEY SELL!

DOUBLE YOUR SALES with FASCO'S new *Active* Ventilator Display Deal. FREE Limited offer! Hurry!

WRITE, WIRE or PHONE for complete information. FASCO Industries, Inc., 10 Union St., Rochester 2, N. Y. (Phone HAmilton 1800.)

FASCO

INDUSTRIES, INC.

ROCHESTER 2, NEW YORK

brands in television, out-dated 1950 television sets, and six-month-old floor demonstrators.

A teaser campaign, employing two caricature figures appropriately christened "Frank" and "Phil" (Frankel's and Philco) worked up consumer interest via newspaper ads and television appearances for three days preceding the event which was held Thursday through Saturday. An anticipated shortage of television sets for immediate sale was curtailed by the promise of the Tri-State Appliance Company to "freeze" every available Philco T.V. receiver within the tri-state area serviced by them for use in the Frankel promotion.

With an eye to the future, Frankel's advertised that an 8- x 10-inch portrait of "family groups around the wonderful new 1951 Philco Television set of your selection" would be taken free. Release statements, authorizing re-use of these photographs for later advertising purposes, were obtained. Over 200 such photographs were taken, at a cost of 75 cents per photograph to Frankel's.

In commenting on the promotion, store President Harold L. Frankel said:

"There were many reasons for this gigantic premiere, but primarily because we feel that this will be Huntington's greatest year of television. Such a venture has allowed the people of this area to see and compare various values in television so that they can truly and readily enjoy the fine array of network programs that will come in on the Cincinnati relay to Huntington this fall."

To those retailers planning a television promotion, here are some "dealer aids" Frankel's passes along:

1. The orchids came from the House of Orchids, Madison, Ill., at a unit price of 16 cents delivered. They were kept in cold storage, withdrawn as needed and were still in excellent condition several days following the event.

2. All advertising, including copy, layout, "teaser" theme, etc., was planned weeks in advance, ready to be used as needed. Original art was used but ads were primarily of the "reader" type.

3. Novelties for the children came from the Auerbach Novelty Company and ball point pens from Sylvania Pens, Inc., both of New York, N. Y.

4. Radio shows, each 90 minutes in length, were broadcast from the store the last two nights. A 30-minute television show was aired the final night. Talent for all three shows was secured at modest cost from a local theatrical booking agent.

5. The photographer was pledged not to charge more than $1.00 for additional prints customers might request of themselves taken during the promotion.

6. News stories were supplied, and used, in local newspapers and over local radio stations.

7. Busses ran six hours daily, between 10 a.m. and 3 p.m., non-stop to Frankel's and making all local stops on the return trip on the half-hour from the store. Excellent use was made of exterior advertising space on these busses.

There's the formula—it works!

DAVIS

***Headquarters* FOR ELECTRICAL CORD SETS**

"WRIST ACTION" CORD SET

Wireless swivel plug turns, bends, swings, spins — eliminates all cord wear, 95% of all cord troubles. Exclusive, patented design. A proven seller. Attractive display card free.

RANGE CONNECTORS

Finest quality cord and receptacles, including new flush range receptacle. Underwriter's Approved. 220 volt, 50 amperes. Eliminates costly electrical work in connecting ranges.

See your jobber or write direct for full details and prices.

DAVIS Mfg. Company

PLANO 1, ILLINOIS

Southwest Rep. H. K. Dewees Co. Walton Bldg., Atlanta, Ga. — Southwest Rep. M. C. Huie Co. Thomas Bldg., Dallas, Tex.

Index of ADVERTISERS

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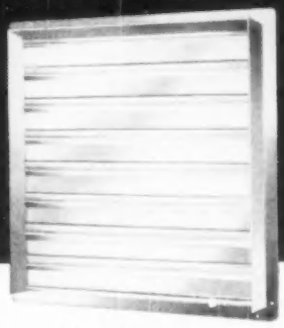
they all want AIR-FLO



MODEL A-555

THE AUTOMATIC SHUTTER WITH ALL THE FEATURES

FRONT VIEW—CLOSED

IT TAKES THE LOAD OFF THE FAN!

Aluminum louvers open fully, permitting capacity fan operation. New heavy reinforcement strip adds strength and long life to the louvers, assures quiet operation and perfect counterbalance, prevents rattling. Deep shroud protects shutter from high winds. Tie-rod, brackets and bearings inside frame, not exposed to weather. Special finish resists corrosion. Many other features.

WRITE FOR NEW AIR-FLO CATALOG 43-B

Illustrations and details of the complete Air-Flo line.

AIR CONDITIONING PRODUCTS CO.

2340 W. LAFAYETTE BLVD. • DETROIT 16, MICH.

INCREASE YOUR PROFITS

buy direct from manufacturer

Thousands of Satisfied Users in U.S.A. and Canada

The Precision pump-motor is built entirely of stainless steel, bronze and aluminum alloy. Has a totally enclosed dust and moisture proof motor with built-in float switch and overload protection, sealed motor ball-bearings and oilite pump shaft bearing will never require additional lubrication. Lifetime mounting float easily adjusted to set depth of any sump. Every pump-bailer thoroughly assembled completely and ready to operate. Equipped with plug-in lead. Does not require special wiring. Guaranteed for one year.

DEALER COST F.O.B. NASHVILLE

1/6 H.P.—1" to Discharge 1,500 G.P.H. $35.50

1/4 H.P.—1½" to Discharge 3,000 G.P.H. $42.50

Order direct by check or money order or write for further information. Manufactured by

PRECISION PARTS CORPORATION

Nashville 7, Tennessee

CTI PROPERLY TRAINED MEN HAVE THE "KNOW HOW"

PRACTICAL SHOP TRAINING

in

ELECTRICITY, MAJOR APPLIANCE

Service, Maintenance, Installation

Write for Catalog ES5—Veterans ask about GI Training

Manufacturers, distributors, etc., when you need TRAINED men contact CTI Placement Bureau.

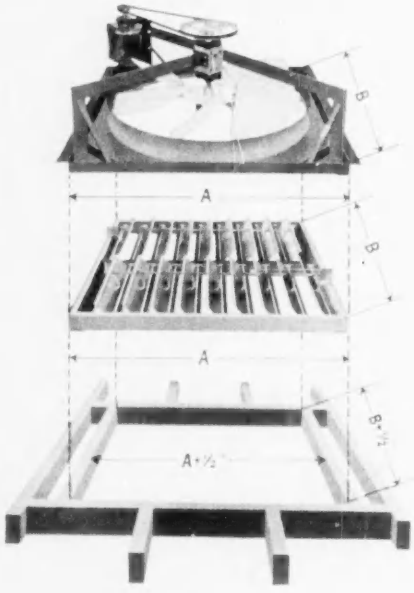
COMMERCIAL TRADES INSTITUTE INC.

of Alabama

200 South 20th St., Birmingham, Ala. — Phone 7-0555

Member: Southern Association of Private Trade Schools

The *REED* Vertical
Air Discharge Attic Fan



Requires An Attic Clearance of ONLY 13 3/8"

INSTALLATION DATA		
MODEL	FAN and SHUTTER A	B
RVU-24	32"	32"
RVU-30	36"	36"
RVU-36	42"	42"
RVU-42	48"	48"

CASH in on the increasing demands of thousands of home owners for the new, popular "lay down" Reed Attic Fan. Depend upon a Reed for low cost of installation, quietness, powerful air delivery and trouble-free service.

Write for Free, Completely Illustrated Catalog

Certified Ratings

Reed
UNIT-FANS, INC.
Manufacturers of Ventilating Equipment
1001 St. Charles Ave.
New Orleans 8

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Sales Potential Unlimited

When you handle the leader

REGINA TWIN-BRUSH

POLISHER AND SCRUBBER

Made and advertised by the largest manufacturer of twin-brush machines in America

Greatest Value Retailing at Lowest Price

Distributors in all territories

Nationally advertised to more than 28,000,000 readers this fall in

Life
Ladies' Home Journal
Saturday Evening Post
Better Homes & Gardens
Good Housekeeping
American Home
House Beautiful
Sunset Magazine

USE THIS COUPON NOW!

THE REGINA CORPORATION, RAHWAY, NEW JERSEY

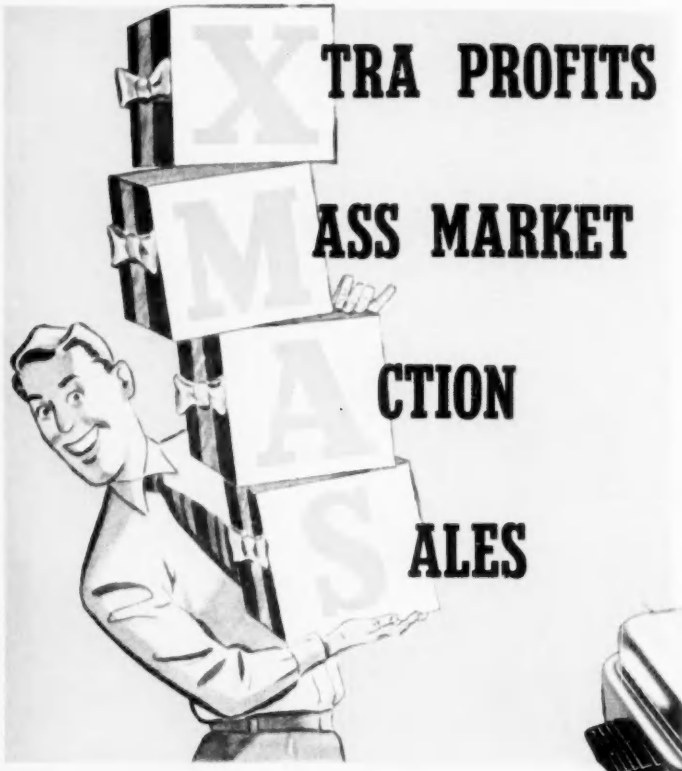
Also producers of
Twin-Brush Industrial Floor Machines

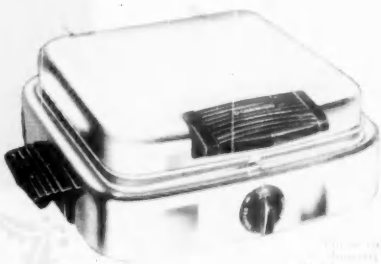
The REGINA Corporation, Rahway 15, New Jersey
Please send:
Name and address of distributor for my territory ☐
Regina Polisher dealer helps ☐

STORE NAME

ADDRESS CITY AND ZONE STATE

SIGNED





no other line of appliances offers you all these advantages!

BIG MARK UP for extra profit—puts more cash in your pocket.
COMPLETE LINE of table appliances—quality built for long, dependable service.
PRICED TO SELL the big mass market—with a fast turnover.
ENTIRELY NEW and up to the minute in design—packed with sales appeal.

Get set for your most profitable season with a complete stock of Dominion Table Appliances.

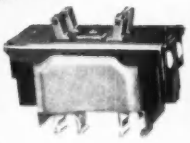
AVAILABLE THROUGH REPUTABLE DISTRIBUTORS ACROSS THE NATION

ELECTRIC CORPORATION
Mansfield, Ohio

New "PLUG-IN" MULTI-BREAKER NMO PANELETTE

"OFF-THE-SHELF" companion to the popular NMO Panelboard, the low cost Panelette meets most A.C. lighting and appliance circuit SWITCHING and PROTECTION requirements. Standardized components stocked by authorized Square D Distributors everywhere.

Construction. Box only 12" W x 4½" D, yet easy to wire — door with locks — lugs only from 4 to 28 circuits or circuit breaker mains from 4 to 20 circuits — 15, 3 wire or 3Ø, 4 wire — flush or surface — 15, 20, 30, 40 or 50 Ampere "Plug In" units interchangeable with NMO Panelboard and MO 20 load centers.



Cutaway showing circular bus bar onto which breaker units are plugged. Twist-outs close openings provided for future use.

THERMAL-MAGNETIC (Cutless) BREAKER UNITS GIVE 2-WAY PROTECTION

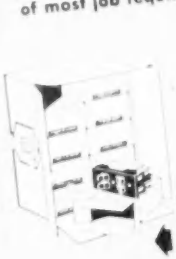
Thermal Element responds to heating effects of both load current and surrounding atmosphere. Total temperature is limited to a safe value.

Magnetic Element responds instantly to heavy overloads or shorts.

Both Elements are needed for complete protection!

START WITH 4 . . . ADD MORE

Small Stock of Standardized Components takes care of most job requirements



Box, bus structure and one 4-pole breaker unit are packed in carton designed to receive additional breaker units and trim when selected.

Separately packed plug-in breaker units are either 2 or 4 pole types. Handle ties convert adjacent poles of like rating into double pole circuits.

Separate flush or surface trims have twist-outs closing unused openings.

Write for Bulletin 1600, Square D Company, 6060 Rivard Street, Detroit 11, Michigan

SQUARE D COMPANY

DETROIT • MILWAUKEE • LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.

HOW DOES A GUY GET TO KNOW ALL THE ANSWERS?

...THIS FINISHED ESTIMATE WOULD TAKE ME TWO MONTHS

JOE, YOU CAN'T EXPECT TO KNOW ALL THE ANSWERS. BUT...IF YOU'RE GOING TO BE AN ESTIMATOR.... YOU'D BETTER LEARN WHERE TO GET THEM FAST!
ELECTRICAL CONTRACTOR

WELL, ON THESE RUNS OF AVA CABLE... WHERE DID YOU GET A FAST ANSWER ON THAT?
EASY...THE G-E CONSTRUCTION MATERIALS REPRESENTATIVE WORKED ON IT WITH US...SAVE US FIGURES PRACTICALLY OVERNIGHT

AND HOW ABOUT REMOTE CONTROL...AND WHAT ABOUT THIS APPLICATION OF "FLEX"?
FOR INFORMATION ON NEW EQUIPMENT...FOR NEW USES OF STANDARD ITEMS... YOU'VE GOT TWO GOOD SOURCES... (1) THE G-E CONSTRUCTION MATERIALS DISTRIBUTOR, AND...(2) G-E LITERATURE

IT MAKES SENSE, BOSS...G. E. FOR TOP-QUALITY MATERIALS... G. E. FOR USEFUL INFORMATION
YOU'LL BE AN ESTIMATOR, YET, JOE. NOW, SUPPOSE YOU GET STARTED ON SOME OF THOSE G-E BOOKLETS. MISS SMITH, BRING ME THE FILE OF G-E LITERATURE
RIGHT!

HERE'S A STARTER, JOE. AND WHEN YOU NEED MORE ANSWERS, REMEMBER THESE THREE:
1. THE G-E CONSTRUCTION MATERIALS DISTRIBUTOR
2. A G-E CONSTRUCTION MATERIALS REPRESENTATIVE
3. G-E BOOKLETS AND LITERATURE
I WON'T FORGET

Section 13-1024
CONSTRUCTION MATERIALS DEPARTMENT
General Electric Company
Bridgeport 2, Connecticut
Please send me information on:

- ☐ G-E remote control wiring
- ☐ AVA cable
- ☐ Flexible conduit

Name _____ Title _____
Company _____
Address _____
City _____ Zone _____ State _____

GENERAL ELECTRIC